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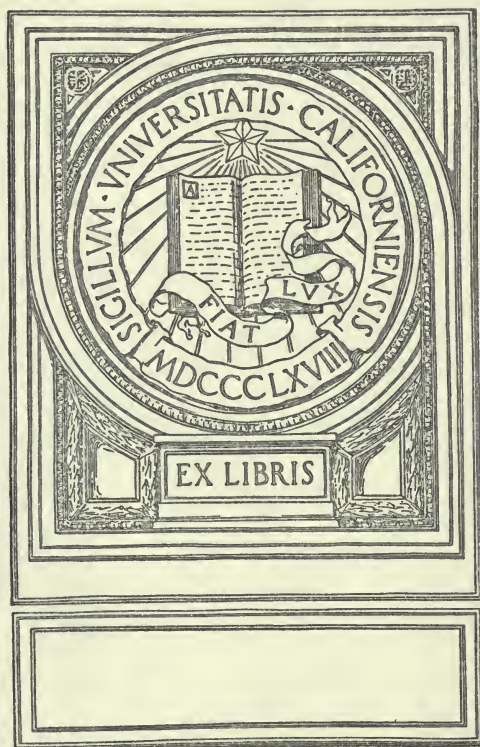
THE AUSTRALIAN COMMONWEALTH

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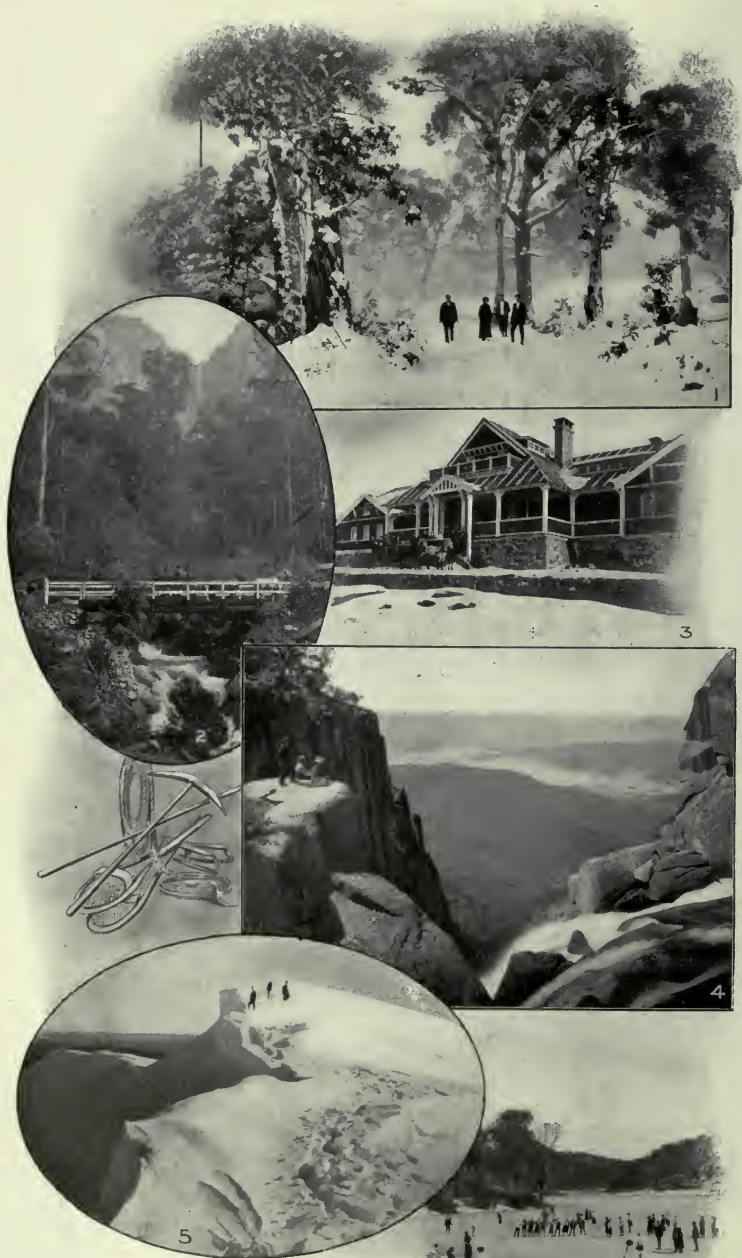
ITS RESOURCES
AND PRODUCTION.

Published under the
Authority of the GOVERNMENT
COMMONWEALTH AUSTRALIA.

OCTOBER 1914



THE AUSTRALIAN COMMONWEALTH
ITS RESOURCES AND PRODUCTION.



1. On Mt. Buffalo in Winter.
2. Buffalo Gorge, from Eurobin Creek.
3. The Chalet. 4. The Buffalo Gorge.
5. Mt. Feathertop, near Bright.
6. Lake Catani in Winter.

VIEWS OF MT. BUFFALO, VICTORIA.

Australia.

COMMONWEALTH
BUREAU OF CENSUS AND STATISTICS
MELBOURNE.

THE AUSTRALIAN COMMONWEALTH

ITS RESOURCES
AND PRODUCTION

— 1915 —



PUBLISHED UNDER THE AUTHORITY OF
THE MINISTER OF STATE FOR EXTERNAL
AFFAIRS. BY G. H. KNIBBS, C. M. G.,
FELLOW OF THE ROYAL STATISTICAL
SOCIETY, COMMONWEALTH STATISTICIAN.



HOT GROUNDS, DERWENT RIVER, TAS.

PREFACE.

In the following pages, issued under the authority of the Minister of State for External Affairs, the Honourable JOHN ANDREW ARTHUR, M.P., a brief account is given of the Resources and Production of the Australian Commonwealth.

The figures, in general, are those furnished in the seventh OFFICIAL YEAR BOOK OF THE COMMONWEALTH, giving statistics for the period 1901-1913, and issued under the authority of the Right Honourable ANDREW FISHER, P.C., M.P., Prime Minister and Treasurer. To this work reference may be made for more detailed information.

The illustrations furnished are characteristic of Australian life and scenery, and give some idea of the scale of development in this part of the British Dominions.

G. H. KNIBBS,
Commonwealth Statistician.

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,
MELBOURNE, 1915.

Information Concerning AUSTRALIA

may be obtained on application to—

IN AMERICA:

THE AUSTRALIAN PAVILION,
PANAMA PACIFIC EXHIBITION, SAN FRANCISCO.

NIEL NIELSEN, Esq.,
Trade and Immigration Commissioner for New South Wales,
419 Market Street, San Francisco.

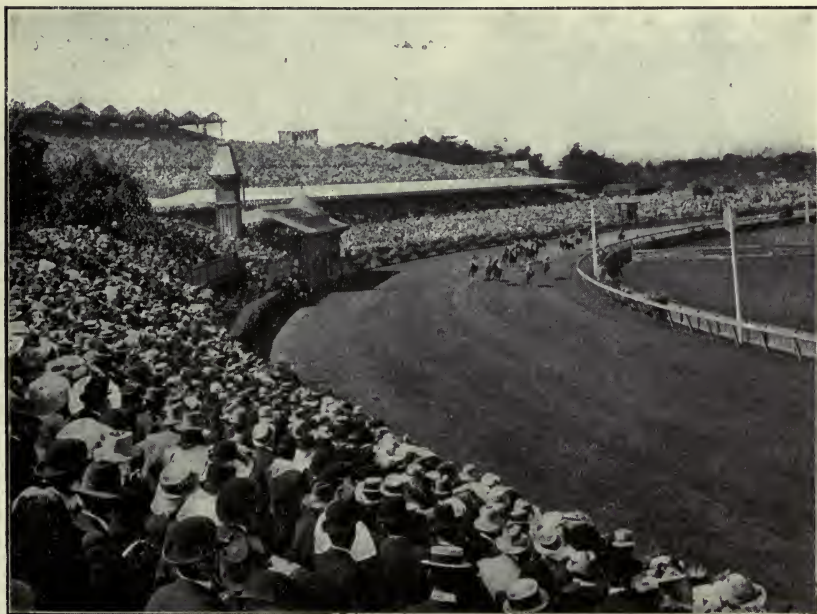
F. T. A. FRICKE, Esq.,
Land and Immigration Agent for Victoria,
687 Market Street, San Francisco.

IN LONDON:

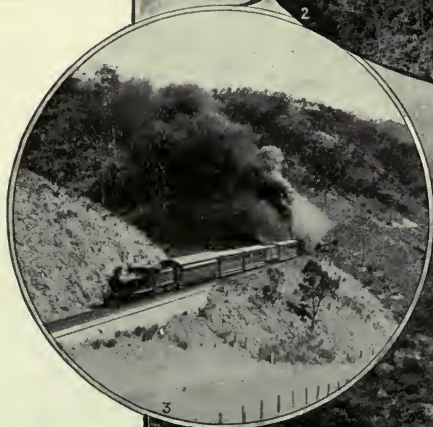
The High Commissioner for
THE COMMONWEALTH OF AUSTRALIA,
72 Victoria Street, Westminster.

IN AUSTRALIA:

The Secretary
DEPARTMENT OF EXTERNAL AFFAIRS,
Collins and Spring Streets, Melbourne.



Flemington Racecourse—Melbourne, Victoria (Cup Day).



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Line.
2.
Robb's Monument.
3.
Train coming out of
Tunnel.
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KURNELL, N.S.W., FIRST LANDING PLACE IN AUSTRALIA OF CAPTAIN COOK.

1.—AUSTRALIA : ITS AREA AND PHYSICAL FEATURES.

AUSTRALASIA comprises (a) the island continent of Australia, which is made up of the five States of New South Wales, Victoria, Queensland, South Australia, and Western Australia, (b) the adjacent island State of Tasmania, and (c) the Islands of New Zealand. The five mainland States and Tasmania were formerly independent colonies, but on the 1st January, 1901, they were united to form the Commonwealth of Australia. New Zealand, however, remained outside the Federation. The Northern Territory, formerly part of South Australia, was transferred to the Commonwealth on the 1st January, 1911. The dependency of Papua was placed under the authority of the Commonwealth on 1st September, 1906.

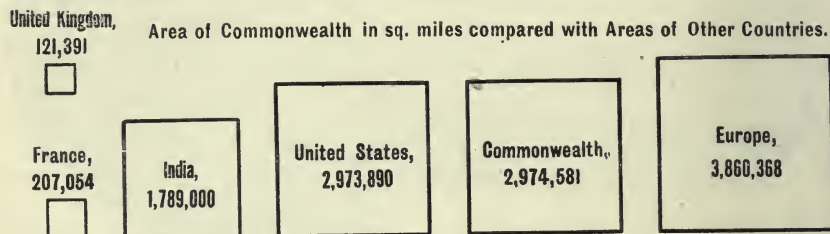
Australia is situated between the meridians of longitude $113^{\circ} 9' \text{ E.}$ and $153^{\circ} 39' \text{ E.}$, the parallels of latitude $10^{\circ} 41' \text{ S.}$ and $39^{\circ} 8' \text{ S.}$, or, including Tasmania, $43^{\circ} 39' \text{ S.}$ On the N. it is bounded

Geographical Position and Size. by the Timor and Arafura Seas and Torres Strait; on the S. by the Southern Ocean; on the E. by the Pacific; and on the W. by the Indian Ocean. Including Tasmania the Commonwealth has an area of 2,974,581 sq. miles, and in its vast area it contains nearly every description of soil, and every variety of climate from temperate to sub-tropical. Australia is about twenty-five times as large as the United Kingdom; it is more than fourteen times the size of Germany or France; nearly sixteen times as large as Spain; and

Australia : Its Area and Physical Features

more than seventeen times larger than Sweden. It is about three-fourths of the size of Europe; a third of that of the whole of North America; and over a fourth of the whole British Empire.

The diagrams given below shew at a glance the area of the Commonwealth compared with the areas of other countries :—



Reference to the population of Australia is made in a later part of this book, but in order to shew how small it is compared with its area, and also with the populations of other parts of the globe, the following diagrams, in which the area of the circles represents the populations of the several countries, are here given :—

Population of Commonwealth compared with Population of Other Countries, 1911.



The areas of each of the six States of the Commonwealth, and the percentage of the area of each State on that of the whole Commonwealth, are given below.

Political Subdivisions.

What is known as the Northern Territory is now under the jurisdiction of the Commonwealth.

Relative Areas of States and Commonwealth.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N. Ter.	C'wealth
Area in square miles ...	310,372	87,884	670,500	380,070	975,920	26,215	523,620	2,974,581
Percentage of whole area	10.4	3.0	22.5	12.8	32.8	0.9	17.6	100.0

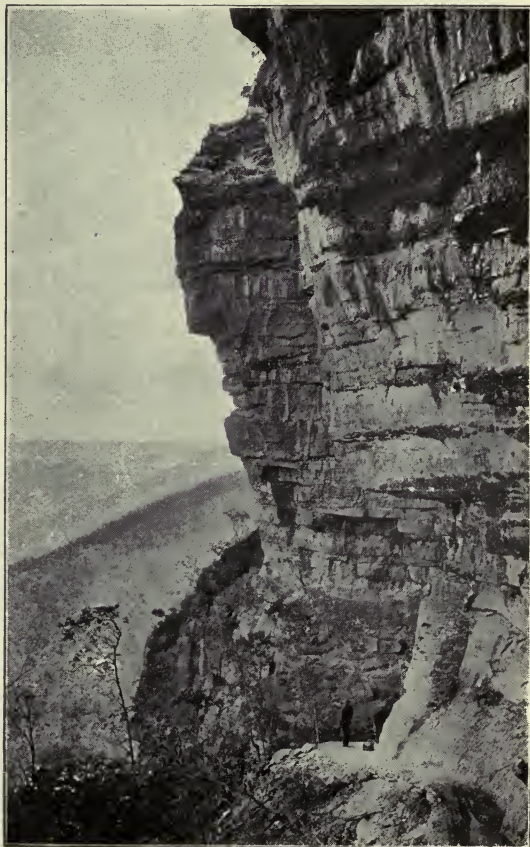
From north to south the Australian Continent extends for nearly 2000 miles, while its greatest breadth from east to west is about 2400 miles. The coast-line of the Commonwealth, exclusive of minor indentations, measures 12,210 miles, which gives an average area of 244 square miles to one mile of coast line.

As regards the general appearance of its land surface, Australia may be described as a plateau, fringed by a low-lying, well-watered coast, with a depressed and, for the most part, comparatively arid interior. In the early days of the settlement of Australia it was thought that the interior part of the continent consisted chiefly of desert plains; as settlement progressed, however, it was discovered that this area contained extensive tracts of excellent country.

Physical Features.

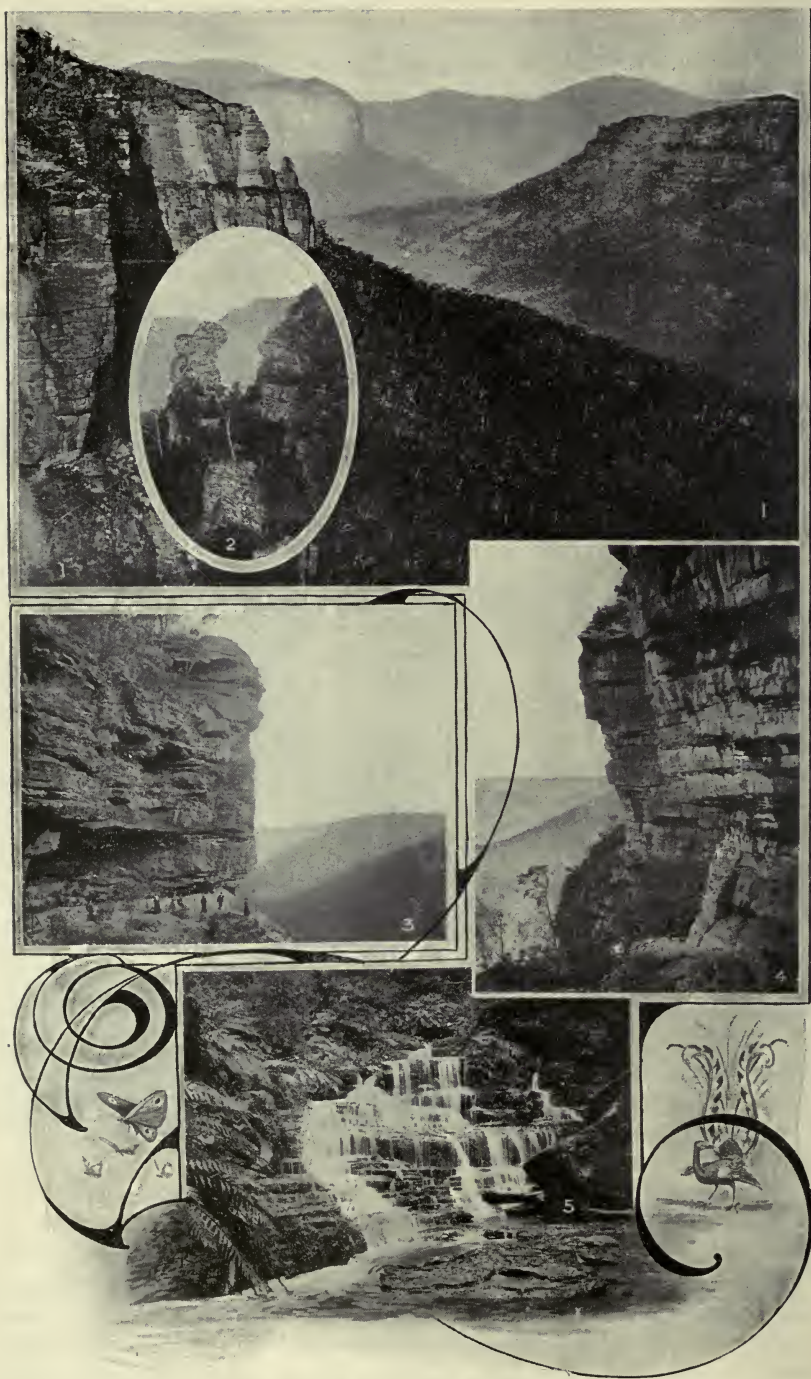
The main mountain feature of Australia is the Great Dividing Mountain Range, which, starting in the Cape York

Peninsula in Queensland, runs parallel with and close to the eastern shore of the continent through the States of New South Wales and Victoria. In the south, one branch of the range sweeps westward towards the boundary of Victoria and South Australia, and the other—the main branch—ends in Tasmania, which is, to a large extent, covered by ramifications of the range. The greatest height attained is in New South Wales, near the Victorian boundary, where Mount Kosciusko reaches an altitude of 7300 feet. The Dividing Range, with its lateral spurs, receives



A TYPICAL BLUE MOUNTAIN BLUFF, N.S.W.

various sectional names in the States through which it passes. The seaward slope of the range is generally sharp and precipitous, and in places marked by extensive chasms and lofty precipices. On the inland side the descent is more gradual, the mountains merging by easy degrees into the great plains stretching towards the centre of the continent. In South Australia a chain of mountains runs northward from the neighbourhood of Adelaide and terminates in the Flinders Range, near Lake Torrens, while the plateau in Western Australia is traversed by ranges in various localities.



BLUE MOUNTAIN SCENES.

1. VALLEY OF THE GROSE. 2. ORPHAN ROCK, KATOOMBA. 3, 4. NATIONAL PARK. 5. BRITANNIA FALLS.

The Burdekin and the Fitzroy are the two largest rivers in north-eastern Queensland. Other important Queensland rivers are the Burnett, the Mary, and the Brisbane. Of New South

Rivers.

Wales rivers, the Hunter, which drains about 11,000 square miles, and empties itself at Newcastle, is the most important, while other large rivers are the Clarence, the Hawkesbury, and the Shoalhaven. The largest Victorian rivers, apart from tributaries of the Murray, are the Latrobe, the Hopkins, and the Glenelg. The River Murray, which drains a considerable part of Queensland, the major part of New South Wales, and a large part of Victoria, is one of the longest rivers in the world. It forms for a con-



GOULBURN RIVER, NEAR ALEXANDRA, VIC.

siderable distance the boundary between New South Wales and Victoria, and subsequently entering South Australia, flows into the ocean on the southern coast of that State. In good seasons, with its tributary the Darling, it is navigable for a considerable distance from its mouth, the total length, including the Darling, being 2310 miles. The chief tributaries, beside the Darling, are the Murrumbidgee and Lachlan. Some of the rivers flowing into the sea on the north-west coast of Australia—*e.g.*, the Murchison, Gascoyne, Ashburton, Fortescue, DeGrey, and Fitzroy—are of considerable size, as also are those of the northern coast—*e.g.*, the Victoria, Daly, Gregory, Leichhardt, Cloncurry, Gilbert, and Mitchell Rivers. The Victoria River, estimated to drain 90,000 square miles, is said to be navigable for the largest vessels for fifty miles.

Australia : Its Area and Physical Features.

Though much of the rainfall received over the vast area of the Australian continent passes off by evaporation or finds its way to the sea, a large volume sinks into the earth and helps to swell the store of artesian water contained in subterranean channels and reservoirs.

Artesian Water.

The most important artesian basins are (a) the Great Australian Basin, about 570,000 squares miles in area, and extending over parts of Queensland, New South Wales, South Australia, and the Northern Territory, and



DOLGELLY BORE, NEAR MOREE, N.S.W.

(b) the Western Australian Basins. Large numbers of bores have been sunk by the Governments as well as by private individuals, the water thus obtained proving invaluable for the watering of stock and for irrigation purposes. The discovery of artesian water has, in fact, completely changed the outlook over thousands of square miles of country where surface water was the only want, and has opened the way for the development of areas as yet barely touched. It has also enabled stock to be travelled where formerly such a thing was difficult or impossible.



COMMONWEALTH PARLIAMENT HOUSE, MELBOURNE, VIC.

II.—THE FEDERATION OF THE COLONIES.

For many years now there has been complete political freedom in Australia. As the newly-founded colonies increased in wealth, commerce, and population, and their resources and industries were developed, the evils of a practically irresponsible form of government began to be felt. During the decade 1851 to 1860 all the Australian colonies were granted responsible government, with the exception of Western Australia, which remained a Crown colony until 1890.

Responsible Government. During the decade 1851 to 1860 all the Australian colonies were granted responsible government, with the exception of Western Australia, which remained a Crown colony until 1890.

Although in the early days of the colonisation of Australia the tendency was towards the separate evolution of isolated settlements, it was not long before the desirability of considering the interests of the Australian colonies as a whole was recognised.

Movements in the direction of the establishment of some form of a Federal Council took place before the middle of the nineteenth century, and when responsible government was granted

The Federal Movement. the evil of want of union among the colonies was from time to time forcibly shewn. From that time the idea of federation gradually increased in the popular favour. At last, on the 1st January, 1901, after several intercolonial conferences had been held, the six colonies were federated and united of their own free will under the name of the Commonwealth of Australia.



1. TREE FERNS, SHOALHAVEN DISTRICT, N.S.W. 2. OCEAN BEACH, MANLY, N.S.W.
3. MT. KOSCIUSKO, N.S.W., ICE LAKE IN FOREGROUND.

Just as, prior to Federation, full powers of self-government in local matters had been enjoyed by each separate colony, so now each State retains its former powers of legislation and administration, except in certain matters, over which exclusive control has been surrendered by all the States. The legislative powers of the Federal Parliament embrace, among other matters, trade and commerce, navigation and shipping, railways, taxation, naval and military defence, quarantine, lighthouses, and fisheries; finance and insurance; postal, telegraph, and like services; census and statistics; emigration, immigration, and nationalisation; currency, banking, weights and measures; and conciliation and arbitration in industrial disputes.

The Federal Scheme of Government.

Various departments and sub-departments have been transferred from time to time from the States to the Commonwealth, while other departments necessary for the due performance of the Commonwealth functions have been created. The Ministerial departments of the Commonwealth are as follows:—Prime Minister, External Affairs, Home Affairs, Treasury, Trade and Customs, Defence, Attorney-General, and Postmaster-General.

The Sovereign is represented in the Commonwealth by a Governor-General, and in each State by a Governor. There are two legislative chambers both in the Commonwealth and in each State Parliament, the members of one House of each of the Parliaments, and of both Houses of most of them, being elected by the people.

In 1914, the Commonwealth Ministry was composed of the following members:—

The Commonwealth Ministry, August, 1914.

<i>Prime Minister and Treasurer</i>	...	THE RT. HON. ANDREW FISHER, P.C.
<i>Attorney-General</i> ...	...	THE HON. WILLIAM MORRIS HUGHES.
<i>Minister of State for Home Affairs</i> ...	...	THE HON. WILLIAM OLIVER ARCHIBALD.
<i>Minister of State for External Affairs</i>	...	THE HON. JOHN ANDREW ARTHUR.
<i>Postmaster-General</i> ...	...	THE HON. WILLIAM GUTHRIE SPENCE.
<i>Minister of State for Defence</i> ...	...	THE HON. GEORGE FOSTER PEARCE.
<i>Minister of State for Trade and Customs</i>	...	THE HON. FRANK GWYNNE TUDOR.
<i>Vice-President of Executive Council</i>...	...	THE HON. ALBERT GARDINER.
<i>Honorary Minister</i> ...	...	THE HON. HUGH MAHON.
" "	...	THE HON. JENS AUGUST JENSEN.
" "	...	THE HON. EDWARD JOHN RUSSELL.

A feature of Australian public affairs worthy of special mention is the system of local government which has been established. The whole of the settled parts of the country has been divided into municipal districts, each of which is under the control of a council or board elected by the ratepayers to deal with matters of purely local interest and to carry out local works.



REGATTA, SWAN RIVER, W.A.

Since the advent of systems of responsible government, steady and strenuous efforts have been made by all the States to develop the resources of the country and to improve the condition of the people. To this end commerce and settlement have been assisted by the construction of railways throughout the States ; by the extension of highways wherever settlement has gone ; by the construction of irrigation works, not only for domestic and stock purposes, but also for the irrigation of the land ; by subsidising steamship services, and by the construction of extensive docks, wharves, and jetties at the coastal towns. The “bush” has in a large part been explored, surveyed, and thrown open to settlement. Facilities have been granted both to *bona fide* settlers on the land and to the working classes in the centres of more dense population to acquire possession of the soil, and special inducements have been offered to immigrants by the introduction of new forms of tenure on easy terms and conditions. Postal services have been extended throughout the settled portions of the land. Free schools have been established and are maintained in all the States. Thoroughbred live stock has been imported for the purpose of improving the Australian breeds. Agricultural colleges, experimental farms, and technical schools have been established. Money is advanced to settlers by the various Governments to assist them in the construction of improvements and in developing their selections. Instruction and advice is given to farmers, dairymen, fruitgrowers, and stock breeders in the best methods of conducting their several businesses. It is recognised that the present population of nearly five millions is inadequate, hence the desire on the part of the Government to secure desirable immigrants, who, while assisting in the development of the Commonwealth, may participate in its benefits.

By the Commonwealth Constitution Act, 1900, provision was made for the establishment of a Federal Capital in New South Wales, and it was also provided that the Commonwealth Parliament should sit at Melbourne until it meets at the new seat of Government. In

The Federal Capital.

1910 the Commonwealth Government acquired from the State of New South Wales an area of approximately 900 square miles in the district of Yass-Canberra, about 200 miles to the south-west of Sydney, and proceeded to take the preliminary steps towards the establishment of a capital city in that district. A large number of survey operations has now been carried out; these include the demarcation of the boundaries of the territory, the determination of the boundaries of privately-owned properties, surveys for engineering works and proposals, and for other necessary purposes. In 1911 competitive designs were invited from architects throughout the world for laying out the city, with the object of embodying in the construction of the Federal capital the most desirable features from the standpoint of general efficiency for its purposes, of engineering, hygiene, etc. The city, which has been named "Canberra," will be the permanent seat of Government of the Commonwealth. A temporary observatory has been established, roads and bridges made and improved, gauge-weirs constructed on the rivers, reafforestation operations commenced, and a complete scheme for the successive stages of works has been prepared. Adjacent to the city site, and within the Federal territory, an up-to-date Military College has already been opened, and at the port which is to be established on Commonwealth territory at Jervis Bay, a Naval College is to be opened at a later date. A railway line to connect the city with the railway system of New South Wales has been constructed, and the survey of a line between the city and Jervis Bay is in progress.



REVIEW OF TROOPS, CENTENNIAL PARK, SYDNEY. N.S.W.



AN AUSTRALIAN WATERING PLACE, GLENELG, SOUTH AUSTRALIA.

III.—THE AUSTRALIAN PEOPLE.

The estimated population of the Commonwealth on the 31st December, 1913, was 4,872,059, exclusive of aborigines.

The density of the population—that is to say, the distribution of the people per square-mile of country—is shewn on the map on page 15. It

will be seen that practically the only districts which may be considered as at all well populated are comprised in a fringe of country near the coast. The area of the Commonwealth being 2,974,581 square miles, and the population 4,872,059, the average density is only 1.6 persons to the square mile, and Australia is, therefore, the most sparsely populated of the civilised countries of the world. For other continents the densities are approximately as follows:—Europe, 118; Asia, 58; Africa, 12; and America, 11. The densities of the populations of some of the principal countries in the world for the latest dates available are given in the following table:—

Density of Population. Australia and Various Countries.

Country.	No. of Persons per Sq. Mile.	Country.	No. of Persons per Sq. Mile.	Country.	No. of Persons per Sq. Mile.
Belgium ...	666	German Empire...	313	Russia (Europe'n)	67.75
England and Wales	633	Switzerland ...	237	United States ...	32.08
Japan (ex. of Korea)	322	France... ..	192	Canada ...	2.08
Italy	318	Spain	100	Commonwealth ...	1.67

At the end of the year 1800 the population—excluding aboriginal natives—of what is now the Commonwealth was 5217. At the end of

1900 it was 3,765,339, shewing the gain during

A Century's Increase.

the 19th century to have been over $3\frac{3}{4}$ millions in an original population of a little

over 5200. The population at periods of 20 years since 1800 was as follows :—

Population of Australia, 1800 to 1900.

Year ...	1800.	1820.	1840.	1860.	1880.	1900.
Population ...	5,217	33,543	190,408	1,145,585	2,231,531	3,765,339

It may be seen from the figures given above that the increase in population has been of fairly rapid growth ; nevertheless it is still very small in relation to the total area, to the national needs of the country, and to the generally prosperous conditions in Australia.

Population of the States and Territories.

The estimated population of each State and Territory, male, female, and total, on 31st December, 1913, was as follows :—

Male and Female Population of each State and Territory, 31st December. 1913.

Persons, etc.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nth. Ter'y.	Fed. Ter'y.	C'wealth
Males	962,053	706,948	356,613	221,605	180,747	104,476	2,995	1,093	2,536,530
Females	869,663	705,171	303,545	218,442	139,937	97,199	677	895	2,335,529
Total	1,831,716	1,412,119	660,158	440,047	320,684	201,675	3,672	1,988	4,872,059



GEORGE STREET, SYDNEY, NEW SOUTH WALES.

The Australian People.

Of the above population the inhabitants of the metropolis of each State comprised the following numbers:—

Estimated Population of Metropolis of Each State, 31st December, 1913.

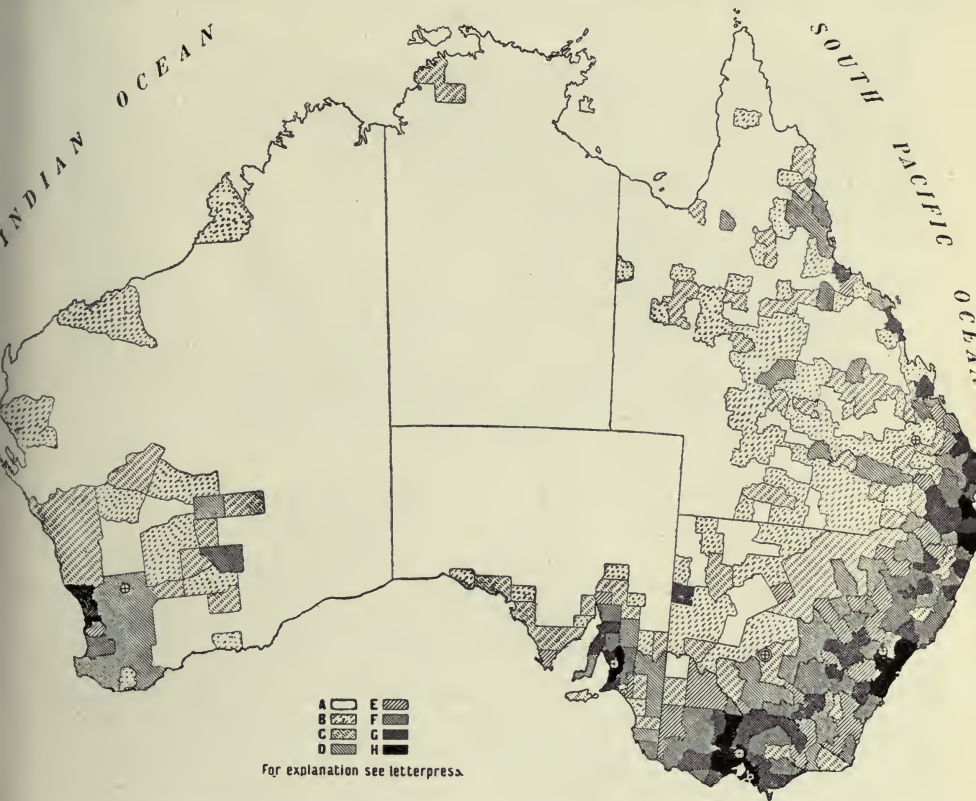
Metropolis ...	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Total of Six Capitals.
Population ...	725,400	651,000	151,300	201,000	121,700	40,000	1,890,400



VIEW OF ADELAIDE, CAPITAL OF S.A.

The immigrant races consist mainly of natives of the United Kingdom and their descendants. At the census of 1911, out of a population

of 4,424,537 persons, whose birthplaces were specified, no fewer than 3,699,538 or 83.62 per cent., were Australasian-born, while of the remainder, 591,719, or 13.37 per cent., were natives of the United Kingdom—that is, 96.99 per cent. were either Australasian-born or British. Other birthplaces largely represented in the Commonwealth were Germany, 32,992 (0.75 per cent.); Scandinavia 14,706 (0.33 per cent.); United States of America, 6640 (0.15 per cent.); and Italy, 6719 (0.15 per cent.). The total population of Asiatic birth was 36,442 (0.82 per cent.), of whom 3474 (0.08 per cent.) were born in Japan. The net immigration, or excess of arrivals over departures, for the whole Commonwealth during decennial periods since 1861 was as shewn on p. 16.



DISTRIBUTION OF POPULATION OF THE COMMONWEALTH OF AUSTRALIA AS AT THE CENSUS OF 1911

A—	Less than 1 inhabitant to 16 sq. miles
B—	From 1 inhabitant in 16 sq. miles to less than 1 in 4 sq. miles
C—	1 " " 4 " " 1 in 1 sq. mile
D—	1 " " 1 sq. mile " 2 in 1 "
E—	2 inhabitants in 1 " " 4 in 1 "
F—	4 " " 1 " " 8 in 1 "
G—	8 " " 1 " " 16 in 1 "
H—	16 inhabitants and upwards in 1 square mile

This map furnishes a graphic representation of the distribution of the population of the Commonwealth at the date of the census of 1911. For this purpose the density of the population for various districts in each State has been computed, and the areas representing these have been shaded in accordance with the scale of density given at the foot of the map. The calculations for each State have been made for counties, the areas for which for New South Wales, Victoria, Queensland, South Australia, and Tasmania are fairly equal, and do not average much more than 2,000 square miles. The areas of counties in Northern Territory and in Western Australia average 4,000 and 8,000 square miles respectively. An area of about 1,136,000 square miles, equal to 38 per cent. of the total area of the Commonwealth, and belonging to South Australia, Western Australia and Northern Territory is not subdivided into counties. As the total population of the area is under 5,000 it appears white in the map, together with a considerable number of adjoining counties, in which the population is less than one inhabitant to 16 square miles.

Centres of gravity of population of each State, and Commonwealth, are shown by cross surrounded with circle (double circle in case of Commonwealth).

The Australian People.

Net Immigration, 1861 to 1910.

Period	1861-1870.	1871-1880.	1881-1890.	1891-1900.	1901-1910.	1861-1910.
Number ...	166,890	191,804	382,741	24,879	40,485	806,799

During the period 1861 to 1910 the gain to the Commonwealth population by excess of arrivals over departures was, therefore, 806,799 persons, while the gain by excess of births over deaths for the same period was 2,472,699; that is, nearly 25 per cent. of the increase was due to "net immigration" and 75 per cent. to "natural increase."

The greatest increase by migration during any decennium was that between 1881-90, viz., 382,741. The increase by migration during 1911, 1912, and 1913, was 207,816, the increase for 1912 (83,741) being the highest on record. The gain during the same three years due to natural increase was 74,324, 80,911, and 83,925 respectively.

That Australia is one of the healthiest countries in the world is shewn by its low death rate, which in 1913 was only 10.78 per 1000 of the population. Its enviable position in this

The Health of the People.

respect—a position shared by the Dominion of New Zealand—as compared with other countries, will be seen from the following table, which gives the information for the latest available dates:—

Country.			Death Rate.	Country.			Death Rate.
New Zealand	...	...	9.1	Ireland	...	...	17.1
Commonwealth	...	...	10.78	German Empire	...	...	17.2
Denmark	...	...	12.9	France	...	...	17.9
England and Wales	...	...	13.5	Italy	...	...	19.6
Norway	...	...	13.5	Spain	...	...	23.3
Netherlands...	...	...	13.6	Hungary	...	...	23.6
Scotland	...	...	15.3	Ceylon	...	...	27.3
Switzerland...	...	...	16.1	Russia (European)...	...	...	29.9

The smallness of the Australian death rate is doubtless due to some extent to the comparatively few persons of very advanced age contained in the population, but, even so, the rate furnishes indisputable evidence of the healthy condition of the people, due largely to the splendid climate, the dry air and sunshine, the absence of intense aggregation and overcrowding of the population, and the small amount of extreme poverty. In Australia there are no endemic diseases. In the early days, owing to careless ideas as to sanitation, typhoid and diphtheria were introduced, but, with the general improvement in the sanitary arrangements of the towns, the number of cases has gradually decreased. Asiatic cholera, and other deadly diseases are quite unknown. Small-pox, in a mild form, is occasionally introduced, but is quickly stamped out, only seven deaths from this disease having occurred in the whole of Australia during the last ten years.



1. LAUNCESTON, FROM CATARACT GORGE, TAS. 2. WYNARD SQUARE, SYDNEY, N.S.W.
3. COLLINS STREET, MELBOURNE, VIC.



ABORIGINES CLIMBING TREE.

The greater part of Australia was originally occupied by a number of aboriginal tribes,

The Aborigines. who lived in distinct communities. Al-

though they were expert fishers and hunters, and were skilled in the use of implements of war and the chase, no traces of an agricultural instinct have ever been discovered in them. As regards their laws, habits, customs, and language, the tribes were very diverse. Since the advent of the white man, the natives have gradually decreased in number and have now been practically submerged by the wave of civilisation which has spread over the country, notwithstanding the many attempts which have been made by the States, as well as by private individuals, to regulate their lives and to promote their welfare.

Naturally, no proper census of the aborigines exists, but at the last census the number of full-blooded aborigines living in a civilised or semi-civilised condition was in New South Wales 2012; in Victoria 196; in Queensland 8687; in South Australia 1439; in Western Australia 6369; and in the Northern Territory 1223. In Tasmania the last full-blooded aboriginal native died in 1876. In the less settled parts of Queensland, South Australia, Western Australia, and Northern Territory, on the other hand, there are considerable numbers of natives still in the "savage" state. The total number of aboriginal natives at present in Australia may be roughly estimated at 100,000. The whole matter, however, is involved in considerable doubt.



MILLSTREAM FALLS, NEAR HERBERTON, QLD.

IV.—CLIMATE.

Australia presents in climate, soil, and season, a very wide range of choice to those who may desire to become colonists. As the south of Tasmania is in a latitude corresponding roughly to that of the south of France, or of New York, in the northern hemisphere, while the northern extremity of the Australian continent corresponds to the south of India or Ceylon, it is obvious that the Commonwealth must have a great variety of climatic conditions. Its climates, in fact, range from tropical to temperate, missing, however, both the extremes of the tropical and the frigid zones.

Australia may generally be divided roughly into three belts or zones marked by broad climatic differences, which are, perhaps, more noticeable

Climatic Zones.

in the output of the orchards than in any other products of the soil. In the southern belt—comprising Tasmania, the greater part of Victoria, and considerable parts of New South Wales, South Australia, and Western Australia—the climate is similar in many respects to that of the south of France or the north of Italy. In these lands are the farms and the wheatfields, while the apple, pear, plum, and cherry grow to perfection. In the south of Victoria the thermometer rises above 100° in the shade on the average on five days during the year, and generally on about three nights during the year it falls to about two or three degrees below freezing point. The middle belt—comprising parts of all the continental

Climate.

States—was, in the early days, with the exception of the coastal districts, devoted almost entirely to sheep stations, and is the natural home of the peach, grape, fig, and olive; while in the northern belt—comprising the Northern Territory and the northern parts of Queensland and Western Australia—the mango, pineapple, cocoanut, and banana flourish, the inland districts being mainly occupied by cattle runs. Even to these broad climatic zones there are numerous exceptions. The farms and wheatfields of the southern belt stretch north through New South Wales to the plateaux and coastal districts of Queensland, and even in the far north dairying is a profitable industry. Again, the sugar plantations and other sub-tropical vegetation come down from the northern belt and blend with the vegetation of the middle belt.

By reason of its insular geographical position and the absence of striking physical features, Australia is far less subject to extremes of weather than are regions of similar area in other parts of the globe, and, latitude for latitude, Australia is far more temperate.

Summer and Winter Temperatures.

Thus, in parts of Europe, Asia, and North America, winter blizzards alternate with summer heat waves. In Siberia,

in Asia, the extreme range of shade temperatures in summer and winter is no less than 171° F., and in North America 153° F., or, say, about double the Australian range, which is only about 81° F. Thus it is that in hardly any of the great farming districts of Australia is it necessary to house live stock, while people live comfortably in cheaply - constructed houses which would be considered almost uninhabitable in countries where the climate is rigorous.

For the purpose of comparison the following table of temperatures is given for the capital towns of the Australian States and for various important cities throughout the world:—



PALM TREE AVENUE, BOTANICAL GARDENS, BRISBANE.



ALMOND TREES IN BLOOM: ADELAIDE IN THE DISTANCE, S.A.

Comparative Temperatures.—Australia and Other Parts of the World.

Place	Mean Summer.	Mean Winter.	Highest on Record.	Lowest on Record.	Average Hottest Month.	Average Coldest Month.
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THE STATE CAPITALS.

	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.
Sydney ...	70.9	53.8	108.5	35.9	71.6	52.3
Melbourne ...	66.5	49.9	111.2	27.0	67.5	48.4
Brisbane ...	76.7	59.5	108.9	36.1	77.2	58.0
Adelaide ...	73.1	52.9	116.3	32.0	74.2	51.5
Perth ...	73.0	55.7	107.9	35.3	74.2	55.0
Hobart ...	61.7	46.6	105.2	27.0	62.4	45.3

OTHER TOWNS.

	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.
Amsterdam ...	63.2	36.8	90.0	4.1	64.4	35.4
Berlin ...	64.7	32.2	98.6	—13.0	66.0	30.0
Bombay ...	83.0	75.2	100.0	55.9	84.8	74.2
Buenos Ayres ...	73.2	51.5	103.1	25.9	74.2	50.5
Calcutta ...	85.1	66.9	108.2	44.2	85.4	65.5
Capetown ...	68.1	54.7	102.0	34.0	68.8	53.9
Chicago ...	70.0	26.3	103.0	—23.0	72.3	24.0
Dublin ...	59.4	42.0	87.2	13.3	60.5	41.7
Edinburgh ...	55.9	38.8	85.3	16.6	57.2	38.3
Lisbon ...	69.6	51.3	94.1	32.5	...	...
London ...	61.2	39.3	92.3	9.4	62.8	38.7
Madrid ...	73.0	41.2	107.1	10.5	75.7	39.7
Marseilles ...	70.3	45.3	100.4	11.5	83.1	56.3
New York ...	72.1	31.7	100.0	— 6.0	74.5	30.3
Ottawa ...	67.2	14.1	98.5	—33.0	69.7	12.0
Paris ...	63.5	37.1	101.1	—14.1	65.8	36.1
Rome ...	74.0	46.6	100.4	19.6	76.5	45.7
Vienna ...	65.7	30.4	97.7	— 8.0	67.1	28.0
Washington ...	74.7	34.5	104.0	—15.0	76.8	32.1

Climate.

The range of summer and winter temperatures in Australia, as in other countries, increases with the distance from the coast, but even in the interior, where the heat is greatest, the nights are cool, and the extreme dryness of the air renders the heat easily bearable and very healthy.

DISTRIBUTION OF THE RAINFALL IN THE COMMONWEALTH OF AUSTRALIA.



The above map has been prepared from a chart shewing the isohyets (curves of equal mean annual rainfall) for every 10 inches for Australia, and compiled from the most recent information. It was impracticable on the small scale map to distinguish between the areas with 40 to 50, 50 to 60, 60 to 70, and over 70 inches of rain annually.

The average annual rainfall varies from about five inches in the Lake Eyre District to about 166 inches on the north-east coast of Queensland. Its general distribution is best seen from the map on page 22, shewing the areas subject to average annual rainfall lying between certain limits.

Rainfall.

The following table of average annual rainfalls is given for the purposes of comparison :—

Annual Rainfall.—Australia and Other Parts of the World.

Place.	Average.	Highest.	Lowest.	Place.	Average.	Highest.	Lowest.
THE STATE CAPITALS.							
Sydney ...	Inches. 47.97	Inches. 82.76	Inches. 21.49	Adelaide ...	Inches. 21.04	Inches. 30.87	Inches. 13.43
Melbourne ...	25.51	36.61	15.61	Perth ...	33.11	46.73	20.48
Brisbane ...	46.95	88.26	16.17	Hobart ...	23.57	40.67	13.43

OTHER CITIES.

Amsterdam ...	27.29	40.59	17.60	London ...	24.04	38.20	18.23
Berlin ...	22.95	30.04	14.25	Madrid ...	16.23	27.48	9.13
Bombay ...	71.15	114.89	33.41	Marseilles ...	21.88	43.04	12.28
Buenos Ayres...	36.82	80.73	21.53	New York ...	42.47	59.68	28.78
Calcutta ...	61.98	89.32	39.38	Ottawa ...	33.40	44.44	26.36
Capetown ...	25.50	36.72	17.71	Paris ...	21.92	29.56	16.44
Chicago ...	33.54	45.80	24.52	Rome ...	33.58	57.95	20.71
Dublin ...	27.66	35.56	16.60	Vienna ...	24.50	33.90	16.50
Edinburgh ...	25.21	32.05	16.44	Washington ...	43.80	61.33	18.79
Lisbon ...	29.18	52.79	17.32				

Though much has been said and written about the recurrence and the evil effects of droughts in Australia in past years, when the agriculturists suffered loss chiefly in consequence of their having been too speculative and not sufficiently provident, the beneficial influences

Droughts.

of the droughts have been to a large extent overlooked. In nearly all countries in the Northern Hemisphere the harvesting of crops for fodder has to be undertaken every year, so that the stock may be fed during the winter months, when the soil is resting and regaining its fertility and chemical constituents. In Australia the droughts will probably recur, but, with reasonable care and the proper conservation of water and fodder by the experienced agriculturist in the years when there is a superabundance of rain and herbage, they will be looked upon in future as by no means an unmixed evil, but rather as one of the provisions by which nature enables the soil to regain those properties which have been exhausted during a succession of bountiful seasons. The beneficial effect of resting the soil in times of drought is shewn by the very rapid recovery, by the increased fertility, and by the abundance of the harvests in the seasons immediately following the droughts.



A GOOD CLASS OF MERINO EWE.

V.—PRODUCTIVE RESOURCES OF THE COMMONWEALTH.

1.—GENERAL.

In the value of its production per inhabitant, the Commonwealth of Australia exceeds any other country for which records are available, while the total amount, as shewn hereunder, has increased enormously during the last forty years. The estimated value at various periods since 1871 and the value per inhabitant were as follows:—

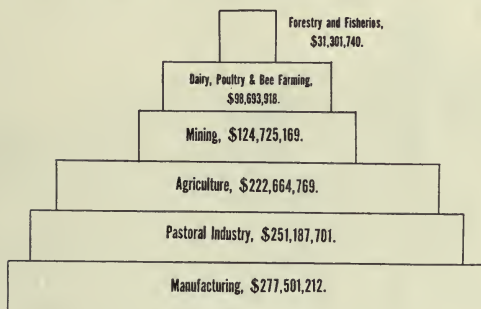
Value of Commonwealth Production, 1871-1912.

Year	...	...	...	1871.	1881.	1891.	1901.	1911.	1912.
Total value in \$1000	...	...	...	227,268	346,091	467,614	557,635	917,742	1,006,075
Value per inhabitant	...	...	...	\$135.57	\$151.17	\$145.94	\$146.61	\$204.56	\$216.60

The estimated return for the various elements included in the total for 1912 was as shewn hereunder:—

Agriculture	...	...	...	\$ 222,664,769	Mining	...	...	\$ 124,725,169
Pastoral Industry	...	...	...	251,187,701	Manufacturing	...	...	277,501,212
Dairying, Poultry & Bee-farming	...	...	...	98,693,918				
Forests and Fisheries	...	...	...	31,301,740	Total	...	...	1,006,074,509

Elements of Commonwealth Production.



A brief reference to the development of the industries in the foregoing list is appended.

2.—AGRICULTURE.

Although Australia is pre-eminently a pastoral country, the value of the return from its flocks and herds far exceeding that from any other primary industry, nevertheless, as the above figures shew, the agricultural industry is of considerable importance, and, judging by the great advance in recent years, bids fair to become still more so as a factor in Australian wealth.

The progress of agriculture at various intervals since 1880, and during the last nine years, appears below. The figures quoted are exclusive of lands under permanent artificially-sown grasses.

Area under Crop in the Commonwealth, 1880-1913.

Year*	...	1880.	1890.	1900.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Area 1000 acres		4,578	5,430	8,812	9,433	9,552	9,354	9,891	10,972	11,894	12,107	13,038	14,696

* For the later years of the period the agricultural year ends on the 31st March following, *i.e.*, agricultural year 1908 ends on 31st March, 1909, etc.

During the period of thirty-three years shewn in the table the area under crop has increased over 220 per cent. The great extent of the Commonwealth permits of an almost unlimited range in the variety of its products. A summary of the acreage under the principal crops is given in the next table:—



1. FARM IN GRENFELL DISTRICT, N.S.W. 2. PREPARING FOR WHEAT HARVEST, NARROMINE, N.S.W.
3. PLOUGHING ON FARM NEAR ADELAIDE, S.A.

Distribution of Crops in the Commonwealth, 1913-14.

Crop.				Crop.			
Acres.				Acres.			
Wheat	...	...	9,295,256	Vines	...	...	62,941
Oats	...	...	859,545	Orchards and Fruit Gardens	...	...	215,644
Barley	...	...	222,627	Market Gardens	...	...	31,000
Maize	...	...	336,975	All other Crops	...	...	*109,063
Potatoes	...	...	170,223				
Hay	...	...	2,756,105				
Green Forage	...	...	475,389	Total	...	...	14,695,744
Sugar Cane	...	...	160,976				

*Consisting of Beans and Peas, Rye, Onions and other root crops, Grass Seed, Tobacco, Hops, Flax, Chicory, Cotton, Coffee, Sisal Hemp, Indiarubber, Rice, etc.

From the above table it will be seen that wheat is the main crop in the Commonwealth, the cereal occupying over 63 per cent. of the total cultivated area in 1913-14. The progress of wheat-growing at various intervals since the year 1875 is shewn hereunder:—

Progress of Wheat-Growing in the Commonwealth.

Year			Year.		
Area under Wheat.			Area under Wheat.		
Production.			Production.		
	Acres.	Bushels.		Acres.	Bushels
1875	1,422,614	18,712,051	1900-1	5,666,614	48,353,402
1880	3,054,305	23,356,749	1910-11	7,372,456	95,111,983
1885	3,277,374	27,431,869	1911-12	7,427,834	71,636,347
1890	3,228,631	27,118,259	1912-13	7,339,651	91,981,070
1895	3,774,332	18,270,348	1913-14	9,295,256	103,517,725

Despite the checks to progress due to the vagaries of the season, the above table gives evidence of solid advancement, and, with the vast areas of land in the Commonwealth still available and suitable for wheat-growing, the industry should undoubtedly shew a considerable increase in the near future. According to the returns for 1913-14, the yield was equivalent to over 21 bushels per head of population. The estimated value of the Commonwealth wheat crop in that year was over \$92,464,716. For some years past Australia has been in a position to export a fair quantity of wheat and flour to other countries. The extent of this trade during the last six years is shewn hereunder:—

Exports of Commonwealth Wheat and Flour, 1908-13.

Year ...	1908.	1909.	1910.	1911.	1912.	1913.
Wheat (bushels)...	15,027,388	31,549,498	47,761,895	55,147,840	32,604,247	42,322,887
Flour* ,, ...	5,840,150	6,498,450	6,997,300	8,794,550	8,404,700	11,082,900

* In bushels of wheat—one ton of flour being taken as equivalent to 50 bushels of wheat.

Competent authorities have pronounced Australian wheat to be second to none in the world. In brightness and hardness of grain, in

Productive Resources.

milling qualities, and in the whiteness of its flour, it stands unequalled. At present it is not quite equal in the quality known by bakers as "strength" to some of the Canadian flours, but here the experimentalist is coming to our aid, and it is believed that ere long an Australian wheat will be produced as near perfection as could be desired. The excellence of the grain is attested by the high price realised for it in the British markets, as compared with wheats from other countries.

Average Price of Foreign Wheat Imported into the United Kingdom, 1910-12.

Country.	Average Price per Imperial Quarter.			Country.	Average Price per Imperial Quarter.		
	1910.	1911.	1912.		1910.	1911.	1912.
	\$	\$	\$		\$	\$	\$
Argentina ...	8.64	8.50	8.11	United States ...	9.06	8.46	8.70
Chile ...	8.94	8.17	8.03	Canada ...	8.94	8.48	8.56
Germany ...	8.92	8.99	8.15	British India ...	8.62	8.17	9.00
Russia ...	9.12	8.66	8.11	Australia ...	9.04	8.48	9.35
Roumania ...	9.06	8.31	8.42				

Other cereal crops grown to fair extent in Australia are oats, barley, and maize. In the table hereunder will be found the area and production returns for these crops during the period 1901-13:—

Area and Production in the Commonwealth of Oats, Barley, and Maize, 1901-13.

Year.	Oats.		Barley.		Maize.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
1901-2 ...	461,430	9,789,854	74,511	1,519,819	294,849	7,034,786
1902-3 ...	592,247	7,296,710	76,260	1,147,515	303,375	4,835,232
1903-4 ...	620,856	17,541,210	121,088	2,701,233	371,906	9,667,089
1904-5 ...	493,317	8,832,045	113,207	2,019,896	324,265	8,118,530
1905-6 ...	466,567	10,474,521	90,945	1,896,678	314,901	8,346,068
1906-7 ...	581,843	13,612,007	106,336	2,248,432	325,581	10,172,254
1907-8 ...	642,815	9,185,227	131,099	1,991,652	299,579	8,137,745
1908-9 ...	676,156	16,248,857	140,243	2,874,204	323,875	8,655,279
1909-0 ...	698,448	14,734,868	143,013	2,436,384	364,585	10,770,648
1910-1 ...	676,688	15,428,456	108,424	2,226,368	414,914	13,044,081
1911-2 ...	616,794	9,561,833	116,466	2,056,836	340,065	8,939,855
1912-3 ...	874,284	16,116,712	181,887	3,859,116	314,936	8,356,158
1913-4 ...	859,545	15,238,932	222,627	3,921,545	336,975	9,077,662

Oats and barley are grown throughout Australia, although Queensland grows very little oats, and only 8826 and 7723 acres were under barley in the States of Queensland and Tasmania respectively during the latest season under review. Malting barley was grown on about 72 per cent. of the area cropped with the cereal in 1912-13. In view of the good price which well-grown grain commands, it is rather surprising that the area devoted to it should fluctuate so considerably. That there is room



MAIZE CROP,
SOUTH AUSTRALIA.

MELONS FOR
FODDER.

for expansion is shewn by the circumstance that the imports of malt into the Commonwealth averaged over 100,000 bushels during the last three years. The warm, humid climate of the coastal districts of New South Wales and Queensland is admirably adapted to the growth of maize, while very heavy yields are obtained in selected districts in Victoria.

Although the extensive range of soil and climate in the Commonwealth permits of the growth of a profusion of varied products, the only grain and pulse crops, other than those already mentioned, grown to any extent are rye, and peas and beans. Rice is grown in Queensland, and, doubtless, in time to come, large areas will be devoted to this grain in the Northern Territory and the northern parts of Western Australia, where there are large areas well suited to its cultivation.

Next to wheat, the hay crop is the most important in the Commonwealth, nearly 19 per cent. of the cultivated area in 1913-14 being under this crop. In other countries the hay is principally made of various grasses, but here it is

Hay.

found very profitable to use wheat and oats for hay-making. Barley is used to a less extent, and in New South Wales and Queensland excellent hay is made from lucerne. The acreage and yield of hay at various periods since 1871 are shewn in the table hereunder :—

Productive Resources.

Commonwealth Hay Crop, 1870-1 to 1913-14.

Year	1870-1.	1880-1.	1890-1.	1910-11	1913-14.
Area under Hay (acres) ...	423,357	716,576	1,033,114	2,258,405	2,756,105
Production of Hay (tons) ...	517,561	815,033	1,218,089	3,175,887	3,374,052

All varieties of root and tuber crops thrive excellently in the Commonwealth, but of those grown potatoes and onions are the most important. The progress of potato cultivation is shewn hereunder:—

Root and Tuber Crops.

Potato Cultivation in the Commonwealth, 1890-1 to 1913-14.

Year	1890-1.	1901-2.	1910-11.	1911-12.	1913-14.
Area under Potatoes (acres) ...	106,764	109,685	151,515	130,463	170,223
Yield of Potatoes (tons) ...	369,079	322,524	399,851	301,489	417,893



HILLING POTATOES, LAIDLEY, QLD.

The other root crops grown comprise onions, mangolds, beet, turnips, and "sweet potatoes." Experiments have demonstrated that sugar beets of a high saccharine percentage can be grown in New South Wales and Victoria.

Owing to the strides made by the dairying industry in the Commonwealth, it is only natural to expect that there should be a considerable increase in the area under artificially-sown grasses and green forage. The progress in this direction is shewn hereunder:—

Sown Grasses and Green Forage.



6 APPLE TROPHY, HOBART, TAS. 2. VINEYARD, MT. LOFTY, ADELAIDE, S.A.
3. ORCHARD SPRAYING, TAS.

Productive Resources.

Commonwealth Area under Grasses and Green Forage, 1902-3 to 1913-14

Year.	Area under Sown Grasses.	Area under Green Forage.	Year.	Area under Sown Grasses	Area under Green Forage.
	Acres.	Acres.		Acres.	Acres.
1902-3 ...	1,413,504	210,705	1908-9 ...	2,445,403	413,511
1903-4 ...	1,901,159	159,884	1909-10 ...	2,457,856	306,082
1904-5 ...	2,004,351	179,603	1910-11 ...	2,714,691	374,862
1905-6 ...	2,144,858	225,780	1911-12 ...	2,869,866	424,440
1906-7 ...	2,301,857	236,484	1912-13 ...	2,987,419	428,006
1907-8 ...	2,416,792	438,535	1913-14 ...	*	475,889

* Figures not available at time of going to press.

The grape vine flourishes in all the States on the mainland of Australia, but wine-growing is carried on most extensively in South Australia and Victoria. Figures illustrating the progress of the viticultural industry are shewn hereunder:—

Commonwealth Vineyards and their Production, 1901 to 1912-13.

Year.	Area under Grape Vines.	Production of Wine.	Table Grapes.	Raisins.	Currants.
	Acres.	Gallons.	Tons.	Lbs.	Lbs.
1901-2 ...	63,677	5,816,087	13,235	3,905,745	667,413
1902-3 ...	63,943	5,186,457	12,288	5,274,742	964,122
1903-4 ...	65,463	6,260,169	13,055	7,449,116	2,004,427
1904-5 ...	65,673	5,851,902	11,669	4,367,181	2,093,076
1905-6 ...	64,344	5,589,928	11,427	6,148,168	2,346,980
1906-7 ...	62,557	5,940,943	16,484	12,796,000	2,922,192
1907-8 ...	61,232	4,450,033	12,867	10,427,760	3,404,464
1908-9 ...	59,450	5,515,801	12,700	10,924,816	4,074,336
1909-10 ...	58,151	4,602,577	15,314	12,191,424	7,107,520
1910-11 ...	59,114	5,866,049	13,812	12,775,056	7,465,360
1911-12 ...	60,602	4,975,147	13,927	15,838,368	10,470,208
1912-13 ...	62,388	6,103,808	11,643	16,835,504	11,328,240

During 1913-14 the area under Grape Vines in the Commonwealth was 62,941 acres.

The raisins and currants referred to in the above table, prior to the year 1910-11, were grown in Victoria and South Australia: for the last three years those grown in New South Wales are included. Excellent raisins and currants are also produced in Queensland and Western Australia, but until recently, no statistics have been collected.

Despite the fact that Australia produces wines of excellent quality, many of which have obtained medals and certificates at foreign exhibitions, the industry has not achieved the success which it deserves. This is due to a variety of causes. In the first place, Australians do not use wine as a beverage to any great extent, and consequently the local market is limited. Entry into British or foreign markets is rendered difficult by the circumstance that the new and comparatively unknown wines of Australia have to compete with well-known brands. Further, the Australian vigneron, instead of using distinctive names for his wine, has adopted foreign names, a fact which frequently tends to confusion, since the Australian wine, though having fine body and flavour, is often quite different from its prototype.

The value of the oversea imports and exports of wine is shewn hereunder :

Commonwealth Oversea Wine Trade, 1901-13.

Year.	Imports.			Exports.		
	Sparkling	Other.	Total.	Sparkling.	Other.	Total.
	\$	\$	\$	\$	\$	\$
1901 ...	509,529	278,586	788,115	33,930	597,376	631,306
1902 ...	393,905	227,891	621,796	29,146	695,889	725,035
1903 ...	383,821	141,198	525,019	20,250	491,601	511,851
1904 ...	338,922	132,502	471,424	21,608	502,580	524,188
1905 ...	349,191	137,388	486,579	24,284	525,531	549,815
1906 ...	396,372	120,131	516,503	22,566	452,814	475,380
1907 ...	460,129	128,463	588,592	25,467	592,801	618,268
1908 ...	516,381	131,426	647,807	22,099	478,543	500,642
1909 ...	443,081	121,542	564,623	21,681	589,419	611,100
1910 ...	473,497	141,646	615,143	25,987	601,473	627,460
1911 ...	747,314	152,630	899,944	20,079	718,047	738,126
1912 ...	646,688	176,788	823,476	23,330	566,118	589,448
1913 ...	674,326	169,342	843,668	18,391	497,757	516,148

The sparkling wine included amongst exports is mainly foreign re-exported.

Although, as will appear from the above figures, the Australian wine trade can hardly be regarded as satisfactory, it is pleasing to note the rapidly-growing demand for locally-dried raisins and currants, the raisins especially having, to a large extent, displaced the imported article.

Sugar cane is grown in Queensland and New South Wales, the area under crop in the former State being naturally by far the more extensive. The area and yield for Commonwealth during the last 10 years were as follows:—



CUTTING SUGAR CANE AT YANDINA, QLD.



PINEAPPLE PLANTATION,
WOODCOTT, QUEENSLAND.

Area and Yield of Sugar Cane, 1904-5 to 1913-14.

Year.	Area under Sugar Cane.	Yield of Cane.	Year.	Area under Sugar Cane.	Yield of Cane.
	Acres.	Tons.		Acres.	Tons.
1904-5	141,842	1,526,629	1909-10	142,261	1,294,575
1905-6	155,912	1,617,743	1910-11	155,542	2,000,758
1906-7	153,864	1,950,340	1911-12	144,283	1,682,250
1907-8	144,763	1,942,418	1912-13	155,936	1,135,141
1908-9	140,883	1,578,075	1913-14	160,976	2,271,558

There is a fairly extensive import trade in sugar, the principal countries from which supplies are obtained being Java, Mauritius, and Fiji. The total net import in 1913 amounted to 71,448 tons, valued at \$3,944,735.

In order to assist the industry and at the same time diminish the employment of coloured labour in connection therewith, the Commonwealth Government has, at various times, passed legislation providing for bounties on the product, extended reference to which will be found in the Commonwealth Official Year Book. In July 1913, the sugar bounties and excise duties were abolished by the Commonwealth Government and Acts were passed by the Queensland Government adopting the bonus system and prohibiting the employment of alien labour. During the year 1910-11 the Commonwealth Government paid \$3,066,948 on account of bounties on sugar cane, \$2,634,072 during 1911-12, and \$1,802,191 during 1912-13.

In Queensland excellent pineapples, bananas, mangoes, custard apples, granadillas, and other tropical fruits can be grown; in Tasmania apples, cherries, raspberries, strawberries, and all fruits which

Fruit-growing.

prefer a cool climate thrive to perfection. During the last five years the value of the exports of fresh fruits from the Commonwealth averaged close upon \$1,700,000 per annum, apples forming the chief item in the list. That the fruit-growing industry is susceptible of considerable extension is evidenced by the fact that in 1913 there was an import of fresh fruit to the value of \$1,732,000, while over \$547,000 worth of dried fruit was imported. At the latest available date, the area under orchards and fruit gardens in the Commonwealth was 215,644 acres.

Amongst the minor crops grown in the Commonwealth may be enumerated tobacco, hops, grass-seed, millet, cotton, coffee, arrowroot, rhubarb, and various gourd crops. Experimental cultivation has proved also that dates and rice will flourish. Olives of excellent quality are grown in South Australia.

Minor Crops.

In the territory of Papua, transferred to the control of the Commonwealth on the 1st September, 1906, there are considerable areas of rich agricultural land which may be acquired by settlers on easy terms. The most reliable and lucrative plantation industries are para rubber and cocoanuts, but all sorts of tropical fruits, fibres, and spices, in addition to many valuable drug-yielding plants, have been proved to thrive to perfection.

Agriculture in Papua.

Commonwealth Bounties on Agricultural Products.

In addition to sugar, bounties are granted on various other products in accordance with the attached schedule:—

Agricultural Products (other than Sugar) on which Bounties are Payable.

Goods.	Period, dating from 1st July, 1907, during or in respect of which Bounty may be paid.	Rate of Bounty.
Cotton, ginned	8 years	10% on market value
Fibres—N.Z. Flax	10 "	" "
Flax and Hemp	5 "	" "
Jute	5 "	20% "
Sisal Hemp	10 "	10% "
Oil Materials supplied to an oil factory for the manufacture of oil—		
Cottonseed	8 "	" "
Linseed (Flax Seed)	5 "	" "
Rice, uncleaned	5 "	\$4.87 per ton
Rubber	15 "	10% on mkt. val.
Coffee, raw, as prescribed	8 "	2 cents per lb.
Tobacco Leaf for the manufacture of cigars, high grade, of a quality to be prescribed	5 "	4 cents per lb.
Fruits—Dates (dried)	15 "	2 cents per lb.
Dried (except currants and raisins), or Candied and Exported	5 "	10% on mkt. val.

Productive Resources.

Although the rate of bonus on the several articles, is, as shewn above, fairly liberal, the bounties have not been availed of to any great extent, as will be seen from the following table:—

Particulars of Bounties Paid on Agricultural Products (other than Sugar) 1909-10 to 1912-13.

Article.	Quantity produced on which Bounties were paid.			Amount paid as Bounties.		
	1910-11.	1911-12.	1912-13.	1910-11.	1911-12.	1912-13.
Cotton, ginned ... lbs.	51,493	60,443	46,043	\$ 443	\$ 565	\$ 462
Fibres—Flax and hemp ... tons	28	137	101	599	2,336	1,046
Sisal hemp ... "	45	8	...	545	88	...
Oil Materials supplied to an oil factory for the manufacture of oil—						
Cottonseed ... lbs.	97,997	99,209	84,479	107	102	63
Linseed (flax seed) ... cwt.	...	...	100	...	...	44
Coffee, raw, as prescribed... lbs.	26,645	16,269	30,053	545	331	608
Tobacco Leaf for the manufacture of cigars, high grade, of a quality to be prescribed ... lbs.	10,902	9,258	25,820	438	380	1,046
Fruits—Dried (except currants and raisins) or candied, & exported lbs.	548,123	636,452	196,837	4,575	8,439	2,857

No bounties have yet been paid on New Zealand flax, jute, uncleaned rice, or dates.

3. THE PASTORAL INDUSTRY.

As shewn in the opening paragraph of this section, the pastoral industry is by far the most important of the primary productive industries of the Commonwealth. During 1912 the total value of the yield from all industries, including manufacturing, was about \$1,007,000,000, and of this sum nearly \$253,000,000 or nearly 25 per cent., was contributed by the pastoral industry.

Wool, of course, was the main factor in this yield. The qualities of Australian wool are well known, and are evidenced in the prices paid for it by British and foreign purchasers. The production of wool, stated as in the grease, is given below for the year 1901, and for each

of the seasons 1910-11 to 1912-13 inclusive:—

Production of Wool (in the Grease) in the Commonwealth, 1901 to 1913.

Year	1901.	1910-11.	1911-12.	1912-13.
Production ... (lbs.) (,000 omitted)	543,132	721,298	726,409	648,852

There was a sharp decline in production during the year 1902 due to bad seasons, but the great recovery which has since taken place shews unmistakably the wonderful recuperative powers possessed by the Commonwealth.

The great bulk of the wool produced in Australia is exported abroad, the quantity used yearly in the woollen mills of the Commonwealth being at present about 11,000,000 lbs. greasy. The destination and value of the wool exported from Australia in 1913 is given in the following table:—

Export of Wool from the Commonwealth, 1913.

Country to which Exported.	Weight of Greasy Wool Exported.	Weight of Scoured and Washed Wool and Tops Exported.	Total Value of all Wool Exported.
	lbs.	lbs.	\$
United Kingdom ...	185,387,090	26,176,484	46,021,324
France ...	159,782,827	18,804,399	36,157,870
Germany ...	94,068,893	10,135,857	22,839,549
Belgium ...	51,881,724	5,269,908	11,615,963
Japan ...	7,199,671	3,564,433	3,577,012
United States ...	14,666,551	124,301	3,627,313
Austria-Hungary ...	11,731,933	62,932	2,528,068
Italy ...	5,778,424	188,298	1,249,335
Other Countries ...	939,765	123,474	5,129,135
Total ...	531,436,878	64,450,086	132,745,569



WOOL SHOW ROOM, SYDNEY, N.S.W.

Of the total imports of wool into the United Kingdom during the five years ending 1913, Australia's share amounted to nearly 40 per cent.

In order to encourage the export of combed wool or tops, bounties have been provided in accordance with the schedule below. The maximum amount to be paid may not exceed the rate of \$48,700 per annum; any unexpended sum may be carried forward and be available for the years following.

Goods.	Period from 1st July, 1907, during or in respect of which Bounty may be paid.	Rate of Bounty.	Bounty paid to 30th June, 1913.
Combed Wool or Tops Exported.	3 years commencing from 1st January, 1909 ...	3 cents per lb.	\$ 212,864
	1 year commencing from 1st January, 1912 ...	2 cents per lb.	
	1 year commencing from 1st January, 1913 ...	2 cents per lb.	



PASTORAL PRODUCTION OF THE COMMONWEALTH.
 1. DRAFTING SHEEP. 2. RAM SOLD FOR 1200 GUINEAS. 3. FROZEN MUTTON FOR EXPORT.

Productive Resources.

At the latest available date the number of sheep in the Commonwealth was over 85 millions. This is considerably less than the number recorded in 1890, when the total was returned at nearly 98 millions, but there is no doubt that stock-owners had, in the earlier year, gone beyond what might be considered as the fair stock-carrying capacity of their holdings. By the year 1900 the total had fallen to 71 millions, and in 1902 to 54 millions, but after that year a succession of very favourable seasons brought the total up to 93 millions in 1911. A severe, though fortunately short, drought was experienced over nearly the whole of Australia during the earlier months of 1912, and this had the effect of reducing the number of sheep at the end of that year to 83,593,846. Good rains fell about the middle of June, and once more the pastoral interest is on the up-grade. The table hereunder shews the number of sheep in Australia at various intervals since 1860:—

The Sheep Flocks of the Commonwealth, 1860 to 1913.

Year.	Number.	Year.	Number.	Year.	Number.
1860	20,135,286	1902	53,668,347	1909	91,676,281
1870	41,593,612	1903	56,932,705	1910	92,047,015
1880	62,186,702	1904	65,823,918	1911	93,003,521
1890	97,881,221	1905	74,403,704	1912	83,263,686
1900	70,602,995	1906	83,687,655	1913	85,046,724

The fact cannot be gainsaid that the methods adopted by the great majority of pastoralists were formerly of a somewhat happy-go-lucky description, for comparatively little provision was made in the way of effective water conservation or accumulation of stocks of fodder to tide over the lean years. Too much reliance was placed on the well-known recuperative powers of the country, but, happily, it has come to be recognised that the policy of simply letting the good years pay for losses incurred in bad seasons is, apart from its cruel indifference to animal life, uneconomic. For some time past great and increasing attention has been paid to the question of combating years of drought by means of extensive water conservation and the storage of fodder in the shape of hay and ensilage, and every year sees the Australian pastoralist better prepared to cope with the vagaries of the season.

The Commonwealth conducts a large and rapidly-increasing trade in frozen mutton and lamb, the exports during 1913 amounting to \$14,000,000. A statement of the trade for 1901 and the last five years is appended:—

Value of Commonwealth Export of Frozen Mutton and Lamb, 1901 to 1913.

Year ...	1901.	1909.	1910.	1911.	1912.	1913.
	\$	\$	\$	\$	\$	\$
Value ...	3,534,566	5,990,911	10,519,141	7,950,126	7,749,409	14,096,158

Productive Resources.

The total export for the last five years, shewn above, was \$46,305,745 and of this \$43,669,479 was taken by the United Kingdom. It is, perhaps, needless to remark that Australia in the size of its sheep flocks and general value of its production from the sheep-breeding industry far exceeds any other country in the world. The sheep flocks of Australia in 1913 numbered 85 millions, the only other countries which approach these figures being Russia and the Argentine Republic.



FARM STOCK, VICTORIA

Horses, Cattle, and Pigs.

The number of horses, cattle, and pigs in the Commonwealth is shewn in the table hereunder for 1901, and for each of the years 1909 to 1913.

Horses, Cattle, and Pigs in the Commonwealth, 1901 to 1913.

Year.	1901.	1909.	1910.	1911.	1912.	1913.
Horses ...	1,620,420	2,022,917	2,165,866	2,279,027	2,408,113	2,522,178
Cattle ...	8,491,428	11,040,391	11,744,714	11,828,954	11,577,259	11,493,167
Pigs ...	931,309	765,137	1,025,850	1,110,721	845,255	800,367

It is difficult at the present time to assign a limit to the carrying capacities of the Commonwealth in regard to horses and cattle. Large areas in the interior of the continent—which, be it remarked, is by no means a desert, as was once popularly supposed—have been proved suitable for the breeding of cattle and horses. Indeed, the possibilities of this portion of Australia have, so far, remained almost undeveloped. The so-called “Nor’-west” district of Western Australia is destined to be one of the chief centres of the cattle industry in the Commonwealth, while the capacities for stock-carrying possessed by portions of the Northern Territory and Northern and

Western Queensland have yet to be determined. Difficulties of transit have hitherto to a large extent prevented the development of these districts, but with the improvement of stock routes and the extension of the railway systems, ranchmen should be attracted by the possibility of establishing themselves in localities where the rent is low, and where climate and other natural advantages are eminently adapted to stock raising. Even when fed only on the natural herbage of the country, the Australian horse has been found to possess a remarkable degree of speed and endurance, and these good qualities have been greatly enhanced by careful breeding. Little need be said in regard to the capacity of the Commonwealth for the production of high-class racing stock, in view of the world-wide renown gained by more than one Australian racehorse.

A fairly considerable though fluctuating export trade in horses is carried on by the Commonwealth. The average value of this trade during the last five years was about \$973,000. India is the chief customer and buys annually in the Commonwealth about 8000 horses to be used as army remounts. The average export value per head of horses forwarded overseas during the last five years was \$107.

The Commonwealth also exports annually large quantities of frozen beef, the bulk of which goes to the United Kingdom, Philippine Islands and the South African Union. During 1912 and 1913 the exports amounted to \$7,936,057 and \$12,907,466 respectively.



SHEARING TIME, BURRAWONG STATION, N.S.W.

Productive Resources.

Further reference to the pastoral industry is here impracticable, but a statement of the net exports of the products of the industry will convey a general idea of its value to the Commonwealth.

Values of Net Exports of Principal Pastoral Products of the Commonwealth, 1908 to 1913.

Products.	1908.	1909.	1910.	1911.	1912.	1913.
Animals (living)—	\$	\$	\$	\$	\$	\$
Cattle	3,426	18,863	56,043	184,268	312,594	244,443
Horses	742,988	412,174	—249,494	—623,027	—136,347	308,487
Sheep	27,910	29,345	80,045	61,961	301,138	226,612
Bones	25,253	29,399	35,847	47,683	59,907	107,167
Glue Pieces and Sinews ...	61,703	57,425	53,712	66,404	88,275	113,527
Glycerine	15,471	11,271	49,488	77,505	66,287	67,008
Hair	81,461	109,906	125,942	121,601	145,754	137,042
Hoofs	9,850	7,894	13,646	15,422	23,953	30,066
Horns	88,912	91,146	124,253	124,939	147,647	148,158
Meats—						
Frozen Beef	2,197,268	3,567,328	5,737,971	5,362,535	7,933,988	12,906,829
„ Mutton and Lamb ...	5,932,862	5,990,872	10,519,054	7,950,004	7,749,040	14,094,690
„ Rabbits and Hares ...	1,635,618	2,061,861	2,368,031	1,980,857	1,561,617	2,421,447
„ Other	41,400	87,730	198,634	235,493	290,563	484,267
Potted and Extract of ...	107,590	277,691	343,112	279,127	295,785	989,918
Preserved in Tins, etc. ...	1,038,895	1,954,441	2,933,954	3,679,843	2,974,872	5,171,299
Other	—14,064	8,093	39,774	63,314	62,993	86,026
Sausage Casings	129,451	253,947	185,922	180,691	42,509	156,377
Skins—						
Hides	420,033	1,165,732	1,393,171	2,274,457	4,243,415	6,901,717
Sheep	5,990,147	8,450,613	9,751,670	7,804,596	9,675,323	12,073,459
Rabbit and Hare	1,484,253	1,689,885	2,758,072	2,423,729	2,804,012	3,019,640
Other, Including Undressed Furs	1,346,593	2,954,773	4,000,778	2,320,728	3,153,334	3,630,569
Tallow	3,824,681	5,983,640	9,191,947	9,411,979	7,519,002	10,500,147
Wool—Greasy	87,682,928	100,157,698	114,033,070	104,086,825	107,388,448	104,496,614
Scoured	23,767,350	23,457,286	25,319,190	21,403,762	19,260,848	21,316,446
Tops ... ..	...	285,366	656,373	1,340,281	1,573,355	2,022,885
Total Values	136,641,979	159,114,379	189,720,205	170,874,977	177,538,312	201,655,140

Note. — signifies net imports.

4. DAIRYING, POULTRY, AND BEE-FARMING.

During the last twenty or thirty years dairying has made great strides in the Commonwealth. This rapid development is due to a variety of causes. In the first place it may be noted that the Australian climate is so mild that excepting in very few regions, stock require no housing all the year round. The dairy-farmer is, therefore, not under the expense of providing stall accommodation for his herd during the winter, while stall-feeding is in most places unknown. Any winter fodder required in Australia is as a rule simply given to the cattle in the fields. In some cases clumps of shelter trees are grown for the protection of the stock, while farmers in certain districts rug their cows during the colder months, as it has been found that the practice results in an improved milk yield.

Moreover, the old-fashioned idea that heavily-grassed country was alone suitable for dairy stock has been abandoned in Australia, for it is found that dairying pays well on very lightly-grassed country. With the introduction of the cream separator and the spread of the factory system the industry has advanced rapidly, so that at the present time large areas once given up to

general agriculture have been devoted almost entirely to dairying. When Captain Phillip established the settlement at Sydney in 1788 the live stock consisted of one bull, four cows, one calf, and seven pigs. At the end of 1912 the dairy herds of the Commonwealth numbered 2,086,885, the total number of all cattle being 11,577,259. The number of dairy cattle in the Commonwealth at the close of each of the six years ending in 1912 was as follows:—

Dairy Herds of the Commonwealth, 1907 to 1912.

Year ...	...	1907.	1908.	1909.	1910.	1911.	1912.
Number of Cattle		1,892,351	1,839,398	1,906,174	2,064,599	2,120,659	2,086,085



MIXED FARM.

Butter and Cheese.

The production of butter and cheese is given in the next table:—

Production of Butter and Cheese in the Commonwealth, 1905 to 1913.

Year.	Butter.	Cheese.	Year.	Butter.	Cheese.
	lbs.	lbs.		lbs.	lbs.
1905 ...	140,898,726	13,155,030	1910 ...	193,425,606	16,537,011
1906 ...	159,934,617	14,847,958	1911 ...	211,573,745	15,886,712
1907 ...	156,380,670	13,383,563	1912 ...	187,259,569	16,147,105
1908 ...	145,317,357	14,579,788	1913 ...	197,987,421	19,255,328
1909 ...	154,273,252	15,774,837			

Australian butter has achieved a highly satisfactory reputation in the London market, as well as in other countries, as is evidenced by the prices received. The following table will give some idea of the magnitude of the export trade in milk products:—

Productive Resources.

Oversea Exports of Butter, Cheese, and Milk from the Commonwealth, 1905 to 1913.

Year.	Butter.		Cheese.		Milk—Concentrated and Preserved.	
	lbs.	\$	lbs.	\$	lbs.	\$
1905	56,477,536	11,457,833	193,608	25,749	495,089	45,351
1906	75,802,856	15,767,974	252,115	33,248	311,540	31,024
1907	66,076,915	14,065,640	495,530	62,759	322,119	30,684
1908	51,206,359	11,618,678	153,589	25,486	309,789	31,129
1909	55,700,987	11,692,499	203,477	28,085	360,821	38,212
1910	87,928,151	19,236,593	921,583	107,931	517,634	50,072
1911	101,722,136	22,568,019	1,159,363	132,580	1,260,323	107,016
1912	66,685,056	16,267,181	146,022	28,031	1,820,943	181,326
1913	75,802,303	17,350,673	1,609,452	206,445	2,875,030	365,795

The chief trade is, of course, confined to butter. Although cheese and preserved milk of fine quality are produced locally, the Commonwealth still imports annually a considerable quantity of cheese, while the importations of concentrated and preserved milk in the years 1912 and 1913 were \$126,531 and \$131,397 respectively.



MILKING BY MACHINERY.

Pig-breeding is carried on principally in conjunction with dairying but the industry has by no means received the attention which, economically, it deserves. The number of pigs in the Commonwealth fluctuates considerably, the figures in 1861 being 319,147; in 1881, 703,168; in 1901, 931,309; in 1908, 695,689; in 1909, 765,137; in 1911, 1,108,450; and in 1913, 800,367. The production of bacon and ham during each of the last six years is shewn in the following table:—

Production of Bacon and Ham in the Commonwealth. 1908 to 1913.

Year	...	...	1908.	1909.	1910.	1911.	1912.	1913.
Production	(lbs.)		40,102,935	37,774,967	45,149,752	53,264,652	54,370,752	51,925,746

The oversea trade in pig products is at present small, and susceptible of considerable expansion. During 1913 the net oversea export of frozen pork was about \$24,000, of bacon and ham \$333,000, and lard \$296,000.

Poultry-farming has only recently attained any importance amongst the industries of the Commonwealth, and the returns relating to it are so incomplete that any estimate of the value of the production therefrom is at best very uncertain. It is to be feared that in the earlier years, owing to imperfect management, the aggregate output represented little more than cost of production. Better methods are, however, now in vogue, and Government experts in all the States give instruction in matters that will tend to amplify the returns. An increasing number of private persons is engaged in breeding the best type of bird for laying and for the table, and the industry bids fair to occupy ere long a place of some importance amongst Commonwealth sources of production. At the present time, so far as eggs and live poultry are concerned, the balance of trade is against the Commonwealth. There is, however, a fairly considerable, though fluctuating, export trade in frozen poultry, the returns for the last six years being shewn below:—

Export of Frozen Poultry from the Commonwealth, 1908 to 1913.

Year	...	1908.	1909.	1910.	1911.	1912.	1913.
Value	\$	35,696	15,218	20,298	36,353	49,366	53,430

Bee-farming, like poultry-raising, has generally been carried on in conjunction with other industries, few persons devoting their attention to apiculture alone. Returns of production are available for all the States except Tasmania, the figures for the five years ended 1912

Bee-Farming.

being as follows:—

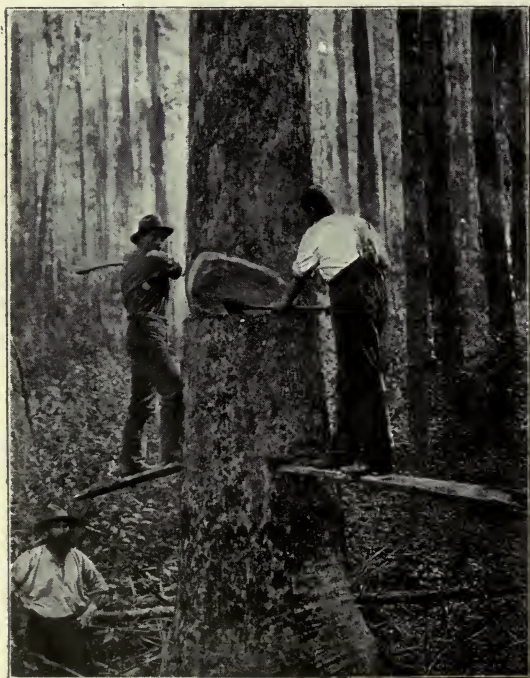
Number of Bee Hives, and Production of Honey and Beeswax, 1908 to 1912.

State.		1908.	1909.	1910.	1911.	1912.
N.S.W.	(Hives ...No.	69,946	64,799	70,266	73,503	62,944
	Honey ...lbs.	3,064,526	2,066,330	2,765,618	3,394,489	2,390,355
	(Beeswax...lbs.	58,697	53,006	72,617	66,686	49,267
Vic.	(Hives ...No.	40,595	42,632	52,762	53,711	52,723
	Honey ...lbs.	2,373,628	1,611,284	2,308,405	1,635,260	3,277,590
	(Beeswax...lbs.	38,674	22,369	34,695	28,405	45,354
Qld.	(Hives ...lbs.	14,282	14,457	15,375	14,945	15,841
	Honey ...No.	445,432	548,171	517,565	574,973	581,228
	(Beeswax...lbs.	9,707	11,849	11,798	11,419	11,744
S.A.	(Hives ...No.	24,020	24,001	27,990	28,044	27,228
	Honey ...lbs.	1,007,717	812,487	996,376	760,094	1,446,364
	(Beeswax...lbs.	12,063	10,059	10,608	9,745	18,054
W.A.	(Hives ...No.	16,559	13,739	10,620	10,718	8,533
	Honey ...lbs.	309,109	409,345	338,507	416,823	292,515
	(Beeswax...lbs.	6,217	9,841	7,215	13,730	6,073

Both honey and wax are produced in sufficient quantities to supply local requirements, while a fair quantity of each is exported oversea. During the last five years the average quantity of honey sent oversea was 227,000 lbs., and of beeswax 22,000 lbs. As evidence of its excellent quality it may be noted that an exhibit of Australian honey obtained the highest award at the Franco-British Exhibition in London in 1908.

5. FORESTS.

It has been estimated that the forests of the Commonwealth cover about 102 million acres, or 5.35 per cent. of the total area, while the area specially reserved for timber is $27\frac{3}{4}$ million acres, or 1.45 per cent. of the total. Special areas have been set apart in all the States as "State forests" or "timber reserves," the reservation being made in perpetuity in some cases, in others for a definite period, while in some instances the reservation may be cancelled at any time. The present abundant natural supplies



FELLING TIMBER IN TASMANIA.

are in most of the States supplemented by the establishment of forest nurseries and plantations. Limits of space preclude more than a passing reference to the number and variety of the forest timbers of Australia. It may be remarked *en passant* that the Australian forest is not always "a continuous assemblage of mournful-looking gum trees," as has been sometimes supposed, for the beauty and diversity of bush and undergrowth in many parts of the coastal jungles is often very striking. Amongst hardwood timbers the particular species of eucalyptus, popularly known as ironbarks, are

very highly prized for all work requiring great strength and durability. Builders prefer ironbark girders in many cases to those made of steel or iron, for the ironbark does not burn easily, nor does it bend or buckle with heat. Large quantities of other species of eucalyptus are used locally, as well as exported abroad, for wood-paving, such as jarrah (*E. marginata*), karri (*E. diversicolor*), Murray red gum (*E. rostrata*), etc.

The stringy barks and the turpentine (*Syncarpia laurifolia*) are valuable timbers for wharves and bridges. There are vast numbers of other "gums," "boxes," and "mahoganies," all of more or less value for industrial purposes. Then there are the pines of various sorts, which give valuable timber for ceilings, box-making, etc. Amongst furniture and cabinet-making timbers may be included red cedar (*Cedrela australis*), a beautifully-marked and easily-worked timber, rosewood, white beech, silky oak, tulip wood, red bean, figured blackwood, and hosts of others. Sandalwood in considerable quantities has been exported from the Commonwealth for over half a century.

The Commonwealth Government encourages the development of the timber industry by extensive use of local products in connection with its buildings and works. Moreover, tests are being made as to the suitability of Australian woods for rifle stocks, telephone switchboards, etc.

Timber Sawn or Hewn. The estimated quantity of timber sawn or hewn in the Commonwealth during each of the five years from 1908 to 1912 was as follows:—

Local Timber Sawn or Hewn in the Commonwealth, 1908 to 1912.

Year ...	1908.	1909.	1910.	1911.	1912.
Production ...	Super feet. 489,051,000	Super Feet. 509,562,000	Super feet. 532,561,000	Super feet. 591,646,000	Super feet. 667,554,000

The exports of timber during the last five years were as follows:—

Exports of Timber from the Commonwealth, 1909 to 1913.

Description.	1909.	1910.	1911.	1912.	1913.
	\$	\$	\$	\$	\$
Dressed ...	58,905	55,459	61,314	56,170	39,711
Undressed ...	4,777,847	4,751,494	4,962,182	4,177,249	4,695,933
Logs...	115,289	81,603	112,048	72,755	123,246
Palings ...	16,785	15,116	23,997	18,172	13,081
Other ...	8,594	14,468	8,911	8,531	4,531
Total ...	4,977,420	4,918,140	5,168,452	4,332,877	4,876,502

Sandalwood.

The exports of sandalwood were as shewn hereunder:—

Exports of Sandalwood, 1909 to 1913.

Year ...	1909.	1910.	1911.	1912.	1913.
Value ... \$	219,579	431,294	357,186	160,110	282,003

The bulk of the export of this product is taken by Hong Kong, nearly 80 per cent. of the total during the last five years having been consigned thither.



1. PREPARING BLUE GUM PILES FOR ADMIRALTY WORKS. 2. LOADING BLACKWOOD LOGS.
3. SHIPPING 100 FT. PILES FOR ENGLAND.

The Commonwealth exports a considerable amount of tanning bark, the amount of this trade during the last five years being shewn hereunder:—

Tanning Bark.**Exports of Tanning Bark from the Commonwealth, 1909 to 1913.**

Year	1909.	1910.	1911.	1912.	1913.
Value \$	447,456	580,357	509,266	351,016	293,994

Local tanneries consume about 26,000 tons of bark annually.

The imports into the Commonwealth comprise chiefly softwoods, such as pine, deal, and oregon, the principal contributing countries being the United States, Norway and Sweden, Canada, and New Zealand.



HAULING TIMBER.

6. FISHERIES.

Numerous varieties of valuable food fishes abound in the coastal waters of Australia, while the freshwater rivers and lakes yield abundant supplies both of natural and acclimatised species. The fishing industry has not, however, developed to the extent it deserves. It has been said that the Australians are not an "ichthyophagous race," but the comparatively heavy import of dried and preserved fish appears to disprove the statement. The natural explanation seems to be that the industry is ill-managed—the consumer has to pay too much, while the fisherman receives too little—and the system of distribution lacks method and daintiness. In recent years, however, considerable improvement in this regard has been effected.

Prior to the year 1907, information was very meagre concerning such matters as the condition of the sea bottom, times and seasons of migration of fish, locality and extent of fishing grounds, most suitable methods of take, etc. For the purpose of co-ordinating and extending information on these and kindred matters, the Commonwealth Government, in the year mentioned, decided to build and

Possibilities of the Fishing Industry.

Productive Resources.

equip an investigation vessel. The *Endeavour*, as the vessel is called, was put in commission on the 9th March, 1909, and has been almost constantly engaged since that date. Careful records are kept of the results of each cruise, and a large fund of valuable information has already been acquired and is at the disposal of persons interested.

To attempt anything like a complete account of the food fishes which abound in Commonwealth waters is here out of the question. Amongst

Food Fishes.

sea varieties may be mentioned "snapper," or "schnapper," which is taken by line in quantities off the coast of the mainland, and which is reckoned amongst the finest edible fishes in the world. Then there are hosts of others, such as whiting, mullet, trevally, sea perch, black and red bream, sole, groper, rock cod, garfish, barracouta, trumpeter, flathead, sea carp, herring, etc. Amongst fresh-water fish may be enumerated the Murray cod (which sometimes reaches a weight of over 50 lbs.), perch, and mullet. Suitable streams on the mainland have been stocked with English trout and other fish, and the trout-fishing to be obtained in Australia is said to be unsurpassed anywhere. Fine sport is also afforded by the trout and salmon in the lakes and rivers of Tasmania. Lobsters, shrimps, prawns, and edible oysters and other shell-fish are found in abundance in the Commonwealth.

In order to encourage the development of local industry, the Commonwealth Government has prescribed a bounty of 1 cent per lb. on preserved fish

Bounties for Fish-Preserving.

for a period of five years dating from the 1st. July, 1907. The maximum amount which may be paid in any one year has been fixed at.



WAVERLEY FISH FARM, NEAR LAUNCESTON, TAS.



PEARL LUGGERS, W.A.

\$48,666, and the amount paid to 30th June, 1913, was \$11,427. That there is considerable room for development in the fishing industry is evidenced by the fact that the average value of fish imported into the Commonwealth during the last five years was \$2,808,000.

Pearlshell is obtained in Western Australia, Queensland, and the Northern Territory, the two last-mentioned places also exporting fair quantities of *bêche-de-mer* and tortoiseshell.

Pearlshell, *Beche-de-mer* and Tortoiseshell. Comparative statistics for the Commonwealth in connection with the fishing industry are as follows:—

General and Oyster Fisheries, Commonwealth, 1908 to 1912.

Particulars.	1908.	1909.	1910.	1911.	1912.
General Fisheries—					
No. of boats engaged ...	3,063	3,101	3,088	2,593	2,898
„ men employed ...	5,107	5,492	5,515	4,405	6,114
Fish obtained—					
Quantity ... cwt.	289,820	298,351	341,659†	350,828†	391,168
Value... ..	\$ 1,262,348	1,346,442	1,855,047	2,306,883	2,420,361
Lobsters obtained—Value, \$	78,658	78,245	107,901	134,891	135,485
Edible Oyster Fisheries—					
No. of boats engaged* ...	139	139	113	482	485
„ men employed* ...	196	175	174	589	518
Oysters obtained—					
Quantity ... cwt.	57,590	59,109†	59,854	64,397	58,113
Value... ..	\$ 301,240	307,528†	295,736	375,115	388,999

* Queensland and South Australia only. There are practically no oyster fisheries in Victoria, Western Australia, and Tasmania. † New South Wales and Queensland only. ‡ Exclusive of Tasmania.

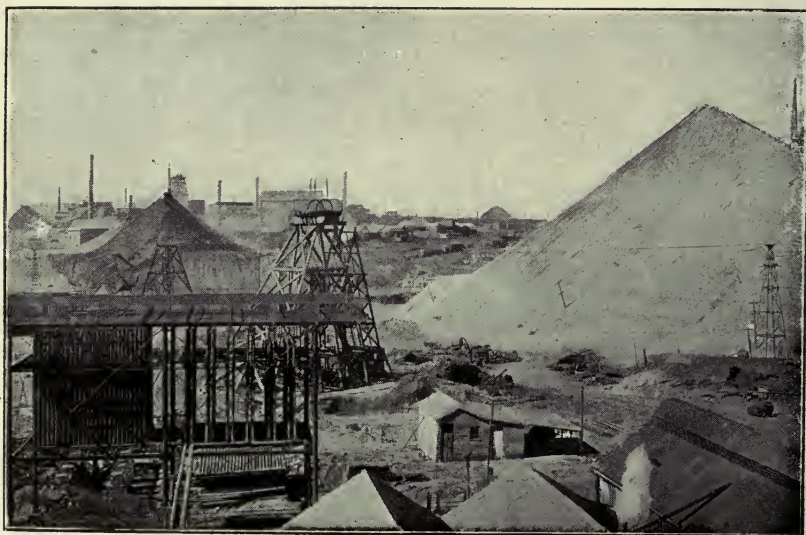
Productive Resources.

Information regarding the pearlshell, bêche-de-mer, and tortoise-shell industries is given hereunder:—

Pearl, Pearlshell, Beche-de-mer, and Tortoise-shell, Commonwealth,* 1908 to 1912.

Particulars.		1908.	1909.	1910.	1911.	1912.
No. of boats engaged ...		604	567	586	578	607
No. of men employed ...		3,852	3,883	4,038	4,052	4,291
Pearlshell obtained—						
Quantity ...	tons	1,768	1,770	1,853	1,717	2,103
Value ...	\$	1,066,254	1,315,218	1,455,799	1,593,527	2,580,729
Pearls obtained †—						
Value ...	\$	239,557	378,560	461,195	426,861	517,671‡
Bêche-de-mer obtained—						
Quantity ...	tons	346	352	251	323	450
Value ...	\$	111,459	79,860	68,560	86,197	122,355
Tortoiseshell obtained—						
Quantity ...	lbs.	5,056	3,532	2,070	1,056	1,302
Value ...	\$	13,510	8,463	4,857	2,784	3,820

* Queensland, Northern Territory and Western Australia only. There is no production in the other States. † As returned. ‡ Exclusive of pearls obtained by Japanese divers, estimated at. \$1,217,000



BROWN HILL GOLD MINE, W.A.

7. MINERAL WEALTH.

Although the annual return from the mining industry is now considerably less than that yielded by the pastoral, agricultural and manufacturing industries, nevertheless it was the discovery of gold in 1851 that attracted large bodies of population to Australia, and thus laid the foundations of its nationhood. This question has been alluded to at greater length elsewhere. It will be sufficient to note here that, while the population of Australia in

1841 was only 221,000, the total had increased to over 1,168,000 by the end of 1861. At the present time, in the richness and variety of its mineral resources, Australia compares very favourably with any other country in the world. What the future may bring forth with respect to the development of the mineral industry it is difficult to say; at all events, it is known that a large proportion of the mineral-bearing areas has up to the present been merely scratched, while there is still a considerable portion of the continent which has never yet been properly prospected.

The table hereunder, which refers to the years
Variety of Mineral Wealth. 1908 to 1912, will give some idea of the wealth and variety of Australian mineral resources:—

Value of Principal Minerals Produced in the Commonwealth, 1908 to 1912.

Minerals.	1908.	1909.	1910.	1911.	1912.
	\$	\$	\$	\$	\$
Alunite	13,164	42,782	13,821	18,469	66,672
Antimony	58,584	27,793	37,497	53,581	80,381
Asbestos	7,787	749	...	...	...
Bismuth	27,710	12,673	101,346	120,068	112,500
Chrome	1,168	...	...	...	...
Coal	18,312,462	15,007,004	17,928,621	19,124,005	21,500,601
Cobalt... ..	...	...	268	...	...
Coke	972,987	667,663	920,116	897,088	790,593
Copper	11,742,946	11,353,635	11,628,226	12,479,223	15,789,810
Diamonds	6,608	19,267	14,021	19,778	9,835
Diatomaceous Earth ...	2,920	11,680	10,911	8,302	17,189
Gems—Unspecified ...	73,972	112,495	103,171	118,710	194,740
Gold	63,551,744	61,340,650	56,227,502	51,350,153	48,081,302
Graphite	292	...	...	...	...
Gypsum	5,280	5,791	47,279	37,584	60,146
Iron	494,691	488,394	788,130	707,676	636,099
Iron Oxide	16,824	24,080	110,271	11,568	23,179
Ironstone Flux	456,708	291,935	178,905	186,964	176,028
Kaolin	8,093	3,012	4,828	2,141	2,565
Lead	933,495	1,239,543	1,358,852	1,208,105	1,668,073
Limestone Flux	352,753	250,385	266,736	231,663	232,339
Manganese	26,883	10,337	16,298	19,617	6,546
Molybdenite	49,410	60,934	86,221	77,228	102,466
Opal	215,589	310,487	336,766	293,454	184,968
Platinum	2,136	8,370	6,901	19,408	18,882
Salt	182,496	124,555	131,397	197,582	195,573
Scheelite	54,029	71,139	78,026	57,114	24,153
Shale	126,857	114,934	165,998	181,182	169,210
Silver	1,558,040	1,408,004	1,411,070	1,236,146	1,638,665
Silver-lead Bullion ...	11,677,038	8,687,479	9,415,512	12,259,021	17,225,359
Silver-lead Ore					
Tin	5,324,673	4,768,688	4,626,973	5,888,411	6,564,956
Wolfram	230,485	404,154	587,015	478,189	413,317
Zinc	2,924,712	5,068,643	6,276,802	6,887,012	8,596,586
Unenumerated	209,082	184,302	98,733	98,509	143,593
Total	119,621,618	112,121,557	112,978,213	114,267,951	124,726,326

As the table shews, the yield of gold far outstrips that of any other item in the list, being equal to over 40 per cent. of the entire production for the period.



1. GOLD MINING, BAKER'S CREEK, N.S.W. 2. MT. KEIRA COLLIERY, SOUTH COAST, N.S.W.
3. SILVER MINING AT BROKEN HILL, N.S.W.

How great a part the precious metal has played in the wealth produced in this portion of the British Empire will be evident from the following table, which shews the value of the gold raised in each State, in the Northern Territory, and the total, from the date of discovery up to the end of 1912:—

Total Gold Yield of the Commonwealth, 1851 to 1912.

State	...	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	C'wealth.
		\$	\$	\$	\$	\$	\$	\$	\$
Value	...	289,380,373	1,419,593,530	365,052,384	4,481,181	531,909,946	36,048,012	10,052,803	2,657,518,229

The figures given above by no means represent the total production, as large quantities of gold were taken away by successful "diggers" in the early days, the amount of which was not in all cases recorded.

Remarkable masses of gold have been found in the Commonwealth at various times. The first "nugget" was discovered at Hargraves, in New South Wales, in 1851, and weighed a little over 1 lb. The Burrandong nugget, found near Orange in the same year, weighed 2217 ozs. 16 dwts., and the "Brennan" was sold in Sydney for \$5626. The "Jubilee," found in 1887, weighed 347 ozs. In Victoria a nugget which weighed 1620 ozs. was found in 1853 at Canadian Gully. The "Welcome," found near Ballarat in 1858, weighed 2217 ozs., while the "Welcome Stranger," unearthed in 1869 at Mount Moliagul, near Dunolly, weighed 2315 ozs., of which 2284 ozs. were fine gold and 31 ozs. silver, and was valued at \$46,398. Probably the largest mass of gold ever found was obtained at Beyer and Holtermann's claim at Hill End, New South Wales, in 1872. The specimen was 4 ft. 9 in. high, 2 ft. 9 in. wide, and about 4 in. thick, and contained only a comparatively small admixture of quartz. An offer of \$63,265 was refused for this prize when it was first exhibited. A miner in Western Australia "dollied" out \$73,000 worth of gold in 1890 from the cap of a reef on the Yalgoo field, and \$97,000 worth was won in a few days by the discoverer of the Wealth of Nations mine.

The Broken Hill silver field, the chief lode on which was discovered in 1882, is one of the richest and most productive mining centres in the world.

Incomplete returns of the output of the various companies operating on the field give the production to the end of 1912 at \$336,518,000, while the dividends and bonuses paid during the same period came to \$77,164,000. The total production of silver and lead in the Commonwealth during 1912 was valued at \$20,532,097. During 1912 the copper produced in the Commonwealth was valued at \$15,789,810. The production from other metals is given in the table on page 53. but more extended reference to them cannot be made here. It may be remarked, however, that the small return

Productive Resources.

from iron by no means represents the possibilities of working the metal, as there are vast deposits of iron ore throughout Australia which have never been touched.

Relative Proportions of Minerals Raised in 1912.



The Manufactures Encouragement Act of 1908 provides for the payment of a bounty not exceeding \$146,000 per annum on all pig iron, puddled bar iron and steel made from Australian ore and pig

Bounties on Iron.

iron respectively, on the following basis:—

Description of Goods.	Rate of Bounty.	Total Amount which may be Authorised.	Date of Expiry of Bounty.
Pig iron from Australian ore ...	\$2.9 per ton	\$730,000	30th June, 1914
Puddled bar from Australian pig iron ...	„ „		
Steel from Australian pig iron ...	„ „		



COPPER WORKS,
LITHGOW, N.S.W.

Bounties were also provided for galvanised sheet or plate iron or steel wire netting, and iron or steel tubes and pipes.

From the 1st January, 1909, up to the 30th June, 1913, the total amount paid in bounties was \$519,739. Of that sum \$383,709 was paid in respect of pig iron, \$87,296 in respect of wire-netting, and the remainder in respect of steel (\$23,014), puddled bar iron (\$22,440), and galvanised sheet iron (\$3280).

Coal was discovered at a very early period in the history of Australia, the first mention of it being made in 1797, when its existence was noted in

Coal.

New South Wales by some survivors from the wreck of a vessel, who had walked from the southern portion of Australia up the coast to Sydney. During the last five years the production has averaged over 10,000,000 tons, valued at \$18,370,000, the bulk of the yield being contributed



A TYPICAL COLLIERY, NEW SOUTH WALES.

by New South Wales. In the Newcastle and Northern District of this State is situated one of the most productive coalfields in the world, the coal-bearing strata extending from the Newcastle Harbour to a distance of about fifty miles inland, and containing practically inexhaustible supplies of excellent coal. There are extensive deposits in the Southern District, while the Western coalfields are in close proximity to vast stores of limestone and high-grade iron ore. Victoria possesses deposits of valuable black coal in addition to immense deposits of lignite and brown coal, the beds in the Latrobe Valley being over 800 feet in thickness. In the event of the application of a cheap and efficient process of manufacturing fuel briquettes from the product, the value of these vast accumulations of soft coal can hardly be over-estimated. An extensive deposit of good, hard clean coal was discovered through boring in 1908 in the Powlett River district, and the output has already assumed large proportions. Nearly half

Productive Resources.



MT. LYELL REDUCTION WORKS, QUEENSTOWN, TAS.

a million tons were raised during 1912 from the state coal mine in this district. Good coal is also mined in Queensland, Western Australia, and Tasmania. In view of the very great wealth in coal, iron, and limestone possessed by the Commonwealth, its success as a manufacturing country should be assured.

The salt referred to in the table on page 53 is produced from salterns in South Australia. Separate information regarding the quantity produced in Victoria is not available for publication, and it is included therefore in the table under the heading of "Unenumerated." There are deposits of almost pure chloride of sodium on islands near Fremantle, Western Australia.



SALT, LAKE FOWLER, SOUTH AUSTRALIA.

Gems are found throughout the Commonwealth, the most important being opal, many beautiful varieties of which are found in New South Wales and Queensland. The official returns by no means adequately represent the total production, as much of the opal raised is sold to foreign buyers on the fields, and is not recorded. The same remark applies in the case of diamonds.



HYDRAULIC SLUICING, BRISEIS TIN MINE, DERBY, TAS.

8.—MANUFACTURING.

As shewn in the first paragraph of this section, the return from the manufacturing industry in 1912 was \$277,500,000, and represented over 27 per cent. of the total value of Commonwealth production. The development of the Commonwealth manufactories during the last nine years is shewn in the table hereunder :—

The Manufactories of the Commonwealth, 1908 to 1912.

Year.	Number of Factories.	Hands Employed.	Salaries and Wages Paid.	Value of Land and Buildings used.	Value of Plant & Machinery.	Value of Output.
	No.	No.	\$	\$	\$	\$
1908	12,853	257,494	96,768,545	129,732,819	126,179,118	484,367,319
1909	13,229	266,661	102,741,225	134,667,608	130,692,608	515,652,994
1910	13,850	286,928	116,146,200	143,593,100	141,017,135	588,173,656
1911	14,455	311,710	133,968,579	158,135,347	153,779,573	647,360,514
1912	14,878	327,456	152,262,582	169,400,985	167,706,151	724,025,054

Productive Resources.

During the short period of five years the number of hands employed and amount of wages paid in connection with factories has increased 21 and 57 per cent. respectively. The value of land and buildings has increased by 30 per cent., while there has been an advance of 32 per cent. in the value of the plant and machinery. The total value of the output of factories in the Commonwealth during 1912 reached \$724,000,000.

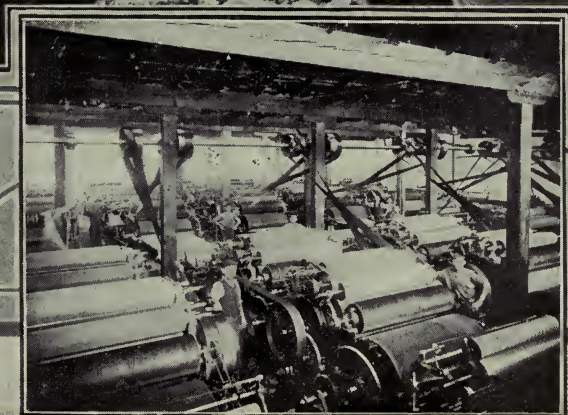
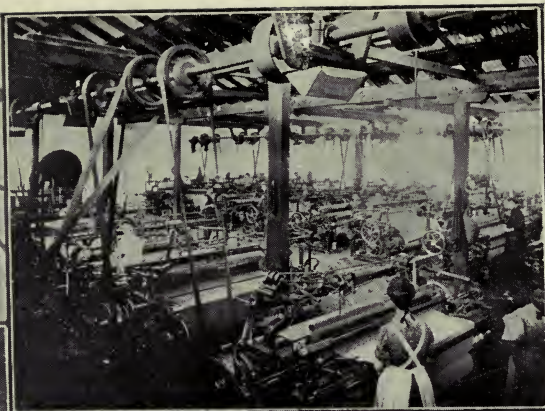
Some idea of the relative importance of the various classes of industrial establishments in the Commonwealth may be obtained from the next table, which shows the distribution of the returns for 1912 under similar headings to those given above:—

Classification of Commonwealth Manufactures, 1912.

Class of Industry.	No. of Establishments.	No. of Hands Employed.	Salaries and Wages Paid.	Value of Land and Buildings used.	Value of Plant and Machinery.	Value of Output.
I. Treating Raw Material, Product of agricultural and Pastoral Pursuits	No. 871	No. 9,624	\$ 3,969,705	\$ 4,887,106	\$ 4,511,139	\$ 51,846,173
II Treating Oils and Fats, Animal, Vegetable, etc. ...	102	2,091	938,716	2,187,292	2,030,481	10,434,536
III. Processes in Stone, Clay, Glass, etc.	709	12,909	7,072,660	6,725,893	7,257,911	17,070,510
IV. Working in Wood ...	1,752	30,660	16,239,038	9,363,089	11,949,536	50,034,527
V. Metal Works, Machinery, etc.	1,779	66,472	39,812,333	26,463,003	30,700,018	153,035,505
VI. Connected with Food and Drink ...	2,331	46,812	21,755,950	40,193,273	43,943,783	238,623,274
VII. Clothing and Textile Fabrics	3,115	84,661	25,058,945	23,984,734	7,885,960	83,066,140
VIII. Books, Paper, Printing & Engraving	1,158	25,077	12,672,620	15,329,915	12,789,520	34,003,719
IX. Musical Instruments, etc.	21	628	357,697	417,215	102,003	988,219
X. Arms and Explosives ...	16	899	410,986	546,515	772,922	1,138,591
XI. Vehicles and Fittings, Saddlery, Harness, etc. ...	1,249	13,400	5,861,377	8,051,672	1,605,640	15,614,093
XII. Ship & Boat Building & Repairing	97	3,821	2,442,202	6,139,886	2,909,149	4,141,042
XIII. Furniture, Bedding, and Upholstery	670	10,405	4,908,375	5,079,136	1,008,406	14,277,832
XIV. Drugs, Chemicals, and By-products	202	4,381	1,964,535	4,007,270	3,063,025	13,030,741
XV. Surgical and other Scientific instruments ...	44	238	106,266	288,626	56,525	290,373
XVI. Jewellery, Timepieces, & Plated Ware	177	2,302	1,170,720	1,675,587	300,710	3,893,840
XVII. Heat, Light, and Power ...	372	8,550	5,620,692	12,221,485	35,978,303	23,855,775
XVIII. Leatherware, n.e.i. ...	66	1,231	488,389	587,131	134,779	2,585,717
XIX. Minor Wares, n.e.i. ...	147	3,295	1,321,374	1,252,157	706,338	6,094,447
Total ...	14,873	327,456	152,262,580	169,400,985	167,706,148	724,025,054



BOOT FACTORY, VICTORIA.



1 & 3. WILLIAMSTOWN WOOLLEN MILLS, VIC. 2. SORTING & CLASSING WOOL, BURRAWONG, N S.W.

Productive Resources.

Judged by the number of establishments and the total persons employed therein, the clothing and textile class easily occupies first place in importance amongst Commonwealth manufactories. Figures showing the development of some of the principal industries included in the class are given hereunder. The first table gives particulars illustrating the development of woollen mills during the period of five years from 1908 to 1912:—

Development of Woollen Mills in the Commonwealth.

Year.				Number of Mills.	Hands Employed.	Value of Plant and Machinery.
						\$
1908	...	...	...	21	2,717	1,804,751
1909	...	...	...	24	2,965	2,062,314
1910	...	...	...	25	3,030	2,126,304
1911	...	...	...	32	3,200	2,330,398
1912	...	...	...	32	3,379	2,422,707

The production of these mills consist chiefly of tweed cloths, flannels, and blankets, all of which have acquired more than a local reputation for purity, quality, and durability.

The progress of boot and shoe factories is exhibited in the table hereunder:—

Development of Boot Factories in the Commonwealth.

Year.				Number of Factories.	Hands Employed.	Value of Plant and Machinery.	Boots and Shoes Made.
				No.	No.	\$	Pairs.
1908	...	...	...	328	13,606	1,578,378	9,874,000
1909	...	...	...	315	14,023	1,643,604	10,158,078
1910	...	...	...	337	13,810	1,755,944	10,657,787
1911	...	...	...	341	13,772	1,897,371	10,786,775
1912	...	...	...	332	13,341	1,936,961	10,591,441

Competent judges have expressed the opinion that the product of the best factories compares very favourably with the finest imported goods.

In 1907 there were 1935 tailoring, dressmaking, and millinery establishments in the Commonwealth, employing 38,721 hands, with salaries and wages amounting to \$7,935,322. Five years afterwards, in 1912, the progress amounted to 2232 establishments, 49,544 hands, and salaries and wages, \$13,426,855, an increase of 15 per cent., 28 per cent., and 69 per cent. respectively.

Viewed in regard to the value of land and buildings, and of plant and machinery, industries connected with food and drink occupy foremost place in the list of Commonwealth manufactories. The development of industries included in the class specified is shewn hereunder:—

Food and Drink Industries.

Development of Commonwealth Food and Drink Industries.

Year.			Number of Factories.	Hands Employed.	Value of Plant and Machinery.	Value of Land and Buildings.
			No.	No.	\$	\$
1908	...	...	2,253	40,652	37,689,991	34,853,577
1909	...	...	2,258	41,006	37,826,683	35,000,211
1910	...	...	2,286	42,921	39,966,365	36,010,749
1911	...	...	2,310	45,623	41,709,203	39,747,642
1912	...	...	2,331	46,812	43,943,783	40,193,273

The progress of the dairying industry in the Commonwealth has been noted in a previous section. In the table hereunder will be found figures relating to butter, cheese and condensed milk factories, these ranking amongst the more important establishments included in the preceding table:—

Butter, Cheese and Condensed
Milk Factories.

Commonwealth Butter, Cheese and Condensed Milk Factories.

Year.				Number of Factories.	Hands Employed.	Value of Plant and Machinery.
				No.	No.	\$
1908	...	...	...	560	3,824	3,485,423
1909	...	...	...	550	3,283	3,380,666
1910	...	...	...	548	3,479	3,446,690
1911	...	...	...	540	3,730	3,775,441
1912	...	...	...	530	3,518	3,839,339



WHEAT AT COUNTRY RAILWAY SIDING, VICTORIA.

Productive Resources.

Tobacco factories are included amongst the industries connected with food and drink. Particulars regarding these establishments are shewn hereunder:—

Tobacco.

Development of Commonwealth Tobacco Factories.

Year.	Factories.	Hands.	Value of Plant and Machinery.	Tobacco made.	Cigars made.	Cigarettes made.
	No.	No.	\$	lbs.	lbs.	lbs.
1908 ...	33	4,058	1,130,371	9,685,784	274,823	1,522,398
1909 ...	37	3,991	1,174,662	9,440,167	285,330	1,623,679
1910 ...	35	3,923	1,218,349	9,933,087	319,903	1,862,178
1911 ...	33	3,730	1,044,248	10,048,396	356,127	2,163,729
1912 ...	35	3,484	1,106,141	10,299,000	389,000	2,606,000



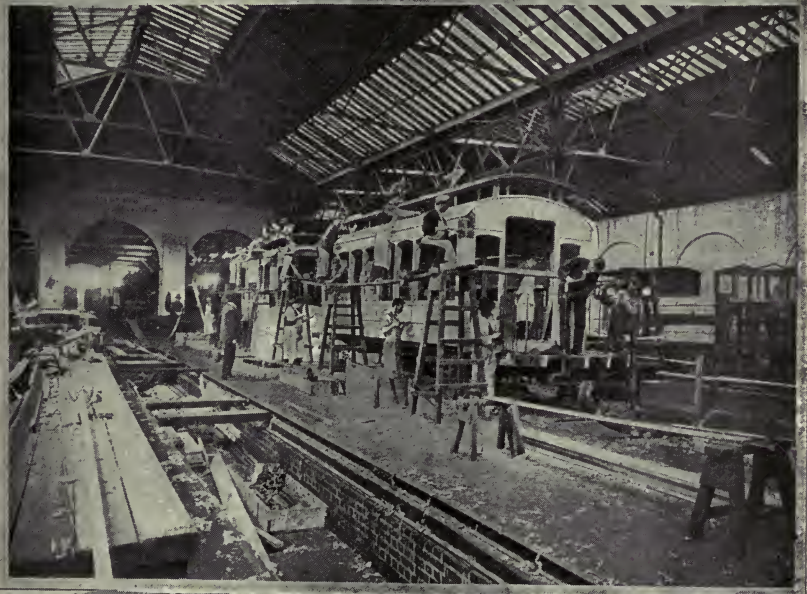
BARBED WIRE MANUFACTURING.

As regards total salaries and wages paid, Class V., which includes industries connected with metal works and machinery, is the most important amongst the list of Commonwealth manufactories. The development of the industries included in the class is shewn hereunder:

Metal Works and Machinery.

Development of Commonwealth Industries connected with Metal Working and Machinery.

Year.	Number of Establishments.	Hands Employed.	Approximate Value of Plant and Machinery.
	No.	No.	\$
1908 ...	1,548	48,505	22,549,983
1909 ...	1,588	49,753	24,048,768
1910 ...	1,620	54,238	25,576,592
1911 ...	1,697	60,538	27,851,132
1912 ...	1,779	66,472	30,700,018



1. BOLT MAKING. 2. RAILWAY CAR BUILDING. 3. FURNITURE MAKING.

Productive Resources.

The established policy of the Commonwealth Government is that of effectively encouraging the development of local industries by means of protective duties, as well as by the payment of bounties and bonuses, which have already been referred to in the preceding pages of this section. In addition to tariff support, contracts are frequently placed with local manufacturers at prices higher than those which would have to be paid for imported goods. There is thus a determination on the part of the Australian people to become more self-supporting by creating and maintaining manufacturing industries, and hence to assure a maximum condition of employment. While it is not within the scope of this section to point out in detail the possible openings which exist for the profitable employment of capital in industrial enterprises, sufficient has been said to shew that there are exceptional openings for establishing factories in Australia at the present time, and manufacturers in other countries, especially those who have hitherto been carrying on a profitable overseas business on the Australian market, will do well to examine closely the inducements offered to manufacturers inside the tariff.

There can be no doubt as to the natural potentialities of the Commonwealth for manufacturing; for of coal there is practically an inexhaustible supply, while the deposits of iron ores and limestone have so far barely been touched.

Potentialities for Manufacturing. For years past Australia has been the world's greatest supplier of wool; we could, if need be, produce in Queensland and the Northern Territory all the cotton required in our local manufactures; while the Commonwealth Dependency of Papua is capable of producing inexhaustible supplies of rubber and other valuable tropical products.



OLIVE PLANTATION, NEAR ADELAIDE, S.A.



AN AUSTRALIAN DISC CULTIVATOR.

VI.—SETTLEMENT ON THE LAND.

In Section V. a brief indication has been given of the extent and variety of the productive resources of the Commonwealth. When the magnitude of its yet unoccupied area is considered, in conjunction with the circumstance that the present comparatively small population has only touched the fringe of the productive potentialities of the country, it seems clear that there is room and opportunity enough for a large accession of population. Moreover, present conditions point to the belief that it is to Australia that the world must in future years look for a large proportion of its breadstuffs supplies.

The people most needed in Australia at the present time are agricultural settlers with a small capital who will help to develop the areas proved suitable for husbandry, together with other immigrants able and willing to work on the land. The days have gone by when "gold could be picked up in the streets," but land can be obtained under such easy terms in Australia that new settlers and thrifty labourers can easily become landed proprietors.

It may truly be said that no country in the world can offer greater advantages to wheat-growers, cattle-raisers, wool-growers, dairy-farmers, fruit-growers, and for raising lambs for export.

Area Available for Settlement. Of the total area of the Commonwealth—namely, 1,903,731,840 acres—only about 102,746,699 acres, or a little over one-twentieth of the whole area, have been alienated absolutely, that is to say, the freehold has been sold or granted

Settlement on the Land.

by the Crown outright. About 52,000,000 acres, or one-thirty-sixth of the whole area, are in process of alienation, or, in other words, are held by settlers who are purchasing the freehold of the land on easy terms by the payment of a small sum annually for a period of years. About 859,000,000 acres, or about two-fifths of the whole area, are let by the Crown under leases or licenses to occupy for various periods, while the remaining 890,075,605 acres, or 47 per cent. of the whole area, are unoccupied.

Of the unoccupied lands, large areas are already available for settlement, while other areas are constantly being opened up by the State Governments. In all the States, also, what are called Closer Settlement Acts have been passed. It has been found that the value of the produce of a large estate, originally considered as being at its full capacity, compares unfavourably with the returns which may be obtained from the same area when subdivided and cultivated by settlers. Under the Acts just men-



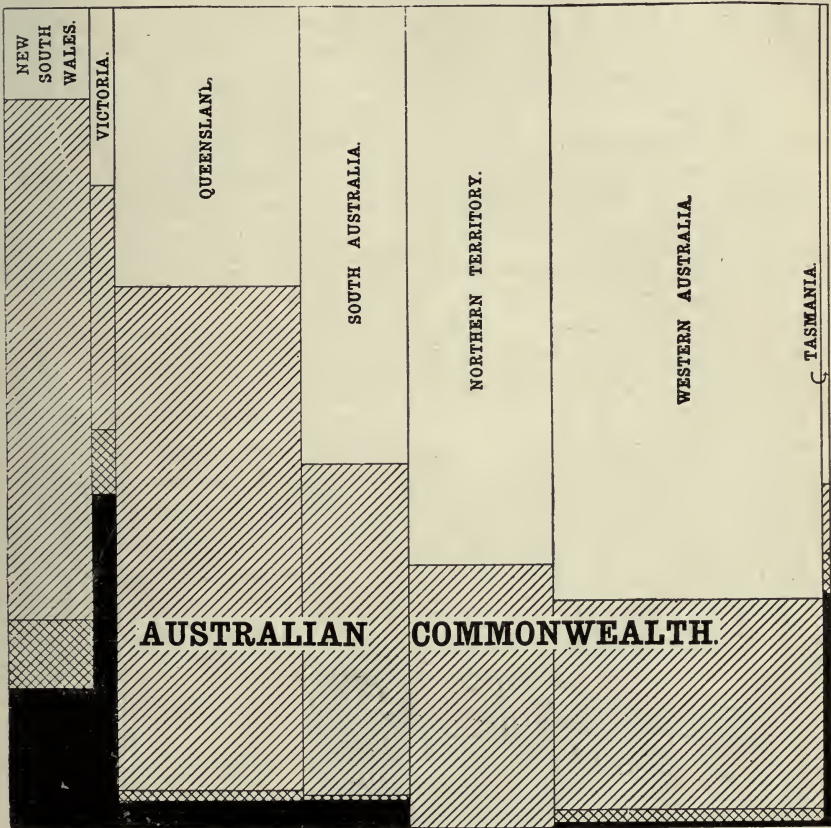
WEIR, TORRENS GORGE, 9½ MILES FROM ADELAIDE.

tioned, the State Governments, therefore, repurchase large estates which have in past years been alienated by the Crown, and, after cutting them up into areas of suitable size, throw them open to settlement on easy terms and conditions. The subdivision and sale of lands by private owners is also going on all over the country, but the terms offered by such owners are not, as a rule, nearly so easy as those offered by the Governments, which do not desire to make a profit, and which can insist on the permanent occupation of the land by carefully chosen tenants.

The diagram given below shews the condition of the public estate in the Commonwealth. The large square represents the total area of the Commonwealth, while the relative areas of individual States are shewn by the vertical rectangles.

Condition of the Public Estate. The areas alienated absolutely, in

process of alienation under systems of deferred payments, and the areas held under leases or licenses are shewn by the differently shaded areas, as described in the reference given below the diagram, while the areas unoccupied are left unshaded.



Area alienated absolutely



Area held under lease, etc.



Area in process of alienation



Area unoccupied



It is not possible within the scope of this sketch to enter with any degree of completeness into the different methods by which land may be taken up in the several States. Though there

How to obtain Land.

is a considerable similarity between the principal forms of tenure in the States, the terms and conditions vary very considerably in detail, and therefore a general indication only of the most important systems will here be given. More detailed accounts will be found in the "Commonwealth Year Book." Reliable information regarding the several States as to land available, price,

and conditions, as well as to numerous other matters of interest to the settler, may be obtained from the High Commissioner, the States Agents-General in London, or from the Government Officers in Australia, whose names and addresses are given at the beginning of this pamphlet, and to whom all intending settlers should apply.

The freehold of the land may generally be acquired under what are known as systems of conditional purchase by deferred payments; that is to say, the settler may purchase the land by the payment of small half-yearly instalments upon terms which are very liberal, viz.:—The settler must reside upon his holding and must fulfil improvement conditions of the lightest nature—conditions inserted simply to guarantee that the occupier will become of benefit to the community by making a reasonable effort to make his holding wealth-producing. The maximum area which a settler may select in this manner varies from 200 to 2560 acres, according to the situation and quality of the land. The purchase price ranges from ten shillings an acre upwards, and the payment may be extended over a period of from twenty to forty years, the annual amount payable ranging from sixpence an acre upwards. The selector must ordinarily reside on his holding for at least five years, and must carry out certain prescribed improve-

ments, such as clearing the land and enclosing it with a fence. Friends or relations may take advantage of the co-operative or family system of settlement, under which they may form a small community among themselves, and while holding their land separately may assist one another by the reciprocal use of implements and stock. Under the Closer Settlements Acts, repurchased lands are from time to time divided into allotments for farmers, for agricultural labourers, or for workingmen's homes. They are thrown open to settlement under systems of conditional purchase by deferred payment, but the land being already improved, the price is usually larger



ENSILAGE MAKING, BIGGENDEN STATE FARM, Q. 70

than in the case of unimproved lands available for settlement. Under these Acts, and under the Small Holdings Acts, farm labourers and working-men may acquire freehold property near the centres of work, and money is advanced to them by the State Governments on easy terms to assist them in building homes. Special areas are set apart for orchards, vineyards, and gardens, while other areas are from time to time specially reserved for selection by settlers from Great Britain.

Instead of selecting the land by conditional purchase, a settler may purchase the land outright, or may obtain a lease for an indefinitely long term—called a perpetual lease—upon payment of a small rent.

In Queensland and Western Australia free homestead farms of 160 acres are granted to settlers upon residential and improvement conditions.

For the purpose of assisting settlers in erecting buildings and carrying out improvements on their holdings, systems have been established in all the Australian States, under which financial aid is rendered to settlers by the State Governments. The amounts advanced and the conditions regarding interest and repayment differ somewhat in the several States. Generally, advances may be obtained on freehold property or on conditional purchases for the purposes (a) of paying off existing encumbrances, (b) of making improvements or of developing the agricultural, pastoral, horticultural, or viticultural resources of the land, (c) of building homes on the land, or (d) for the purchase of stock, machinery or implements. Loans, together with interest at not more than 5 per cent., are generally repayable by half-yearly instalments within 31 years. To the end of the year 1912-13, the total amount of such advances was \$54,667,496, the balance due being \$31,311,448. Special clauses are inserted in many of the Closer Settlement and Small Holdings Acts, providing for advances to persons taking up land under the Acts on similar lines and for similar purposes to the above. In the Northern Territory, the Commonwealth Government is throwing open a large area for settlement, at the same time assisting settlers in the purchase of fencing, implements, stock, etc. By taking advantage of the opportunities thus offered for borrowing money at a low rate of interest and repayable in small instalments, many farmers have been able to make their holdings wealth-producing at an early stage, when otherwise they would have had a hard struggle to surmount the initial difficulties incidental to the cultivation of virgin lands.

The Governments of some of the States have arranged to grant assistance towards the payment of the passage money of persons desiring to settle on the land or to engage in farm or dairy work, or work

Assisted Passages for Settlers and Farm Workers. of a similar nature, to domestic servants, and to other persons who can satisfy the Agents-General in London that they will make suitable settlers, together with their wives and families, if any. Arrangements have been made with several of the best known and most up-to-date shipping

Settlement on the Land.

companies for special reductions to intending settlers, in addition to which the Government contribution reduces the cost of the passage to the immigrant to so small an amount as \$29 for males, \$15 for females, and \$7.3 for children. Persons resident in Australia may nominate their relatives or friends to come out by assisted passages. Settlers have the choice of travelling by any one of a number of fast and well-appointed steamships, and the actual amount of passage money will, of course, depend upon the



FIRST STAGES IN CROPPING, GIPPSLAND, VICTORIA.

class of accommodation required. Those who have availed themselves of assisted or nominated passages are met on arrival by Government officers, who make themselves acquainted with the needs of the passengers and help them in every possible way. Special concessions may also be obtained by settlers in the way of railway fares and freights from the port of arrival to the railway station nearest to their selection.

One of the most important considerations to the intending settler is the question of selling his produce at a profit. Naturally, the market prices fluctuate considerably from time to time. The

Market Prices for Produce. The table below, however, gives a general idea of the prices prevailing during the year 1912 for various classes of produce.

Average Wholesale Prices Agricultural and Dairy Produce, 1912.

Wheat	\$0.99 bushel	Mutton, prime ...	\$0.07 per lb.
Barley, Feed ...	1.14 „	Ham	0.27 „
Oats	0.78 „	Bacon	0.19 „
Maize	0.99 „	Butter, choice ...	0.24 „
Potatoes	43.80 per ton.	Cheese, matured ...	0.22 „
Beef, prime bodies ...	6.08 per 100 lb.	Eggs, ordinary ...	0.27 doz.

Another consideration of great importance to the intending settler is the cost of getting his produce to market. In each State various descriptions of goods are classified, and the freight is

Railway Freights for Produce. charged according to classification. Both the classification and the rates charged vary somewhat in the several States, but generally it may be said that low rates prevail, the charges having generally been reduced in recent years as the revenue from traffic has increased. The mileage rates are based on a tapering principle, *i.e.*, a lower charge per ton mile is made for a long haul than for a short haul. District rates are charged between specified stations, and are, as a rule, somewhat lower than the mileage rates. The following table shews the mileage rates for agricultural produce in truck loads per ton and per ton mile for various distances:—

Rates for Carriage of Agricultural Produce in Truck Loads on State Government Railways, 1913.

Rates.	Charge per Ton for Haul of—					
	50 Miles.	100 Miles.	200 Miles.	300 Miles.	400 Miles.	500 Miles.
Average per ton ...	\$ 1.38	\$ 2.11	\$ 2.80	\$ 3.35	\$ 3.95	\$ 4.44
„ per ton mile	0.03	0.02	0.02	0.02	0.01	0.01

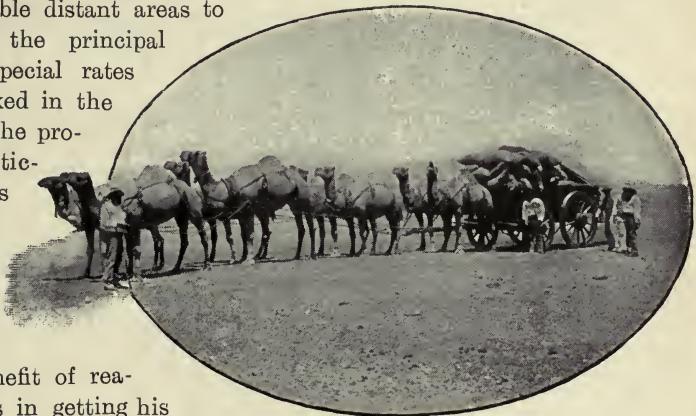
It may be seen from the above table that the principle which has been followed has been to diminish the rates rapidly in proportion to distance, so as to enable distant areas to

compete in the principal markets. Special rates have been fixed in the interests of the producer for particular classes or for small packages of produce.

The producer also has the benefit of reasonable rates in getting his implements, stock, and necessary commodities to his land.

The education of the farmers is a subject to which much attention is given by the State Governments, which have established five agricultural colleges, where, for moderate fees, pupils receive instruction in the theory and practice of all branches of agriculture. There are also in various parts of the Commonwealth

Dissemination of Agricultural Information.



A CAMEL TEAM IN THE FAR NORTH.

Settlement on the Land.

thirty-six experimental farms, orchards, and vineyards, where the most advanced and best methods of farming in all its branches are studied by the Government authorities. Experts on dairying, on horticultural and viticultural and other matters, are sent out to lecture in various country districts and to give practical demonstrations. Advice is given to farmers by means of the official Agricultural Journals, special bulletins, or by letter when asked. There are also in practically all the settled districts, agricultural and horticultural societies, and associations of farmers and stock-breeders, having the one general aim of improving their methods of business. Excellent elementary training in agriculture and horticulture is given at the State Schools in most of the States.

In Australia the position of the farm labourer and of other persons employed in agricultural and pastoral pursuits is much superior to what it is in England, where they have but few chances of improving their position. In the Commonwealth, with its higher rates of wages, cheap living, and with the financial assistance given by the Governments, the agricultural labourer may, by perseverance and self-help, easily acquire a home and a farm of his own. Naturally, the rates of wages vary from time to time in different localities, according to the state of the labour market and according to the prosperity of the seasons. The table given below has been prepared from official returns, so as to give a general indication of the ordinarily prevailing wages, and also the minimum and maximum wages, paid in Victoria during 1912-13, and may be accepted as an indication of rates of wages prevailing in Australia. In addition to the rates shewn below, board and lodging, or rations, are found.

Rates of Wages, with Rations, Paid upon Agricultural, Dairying, and Pastoral Holdings in Victoria during 1912-13.

Occupation.				Prevailing Rate.	Range.		
				\$	\$	to	\$
Ploughmen	...	...	... per week	6.08	4.87		7.30
Farm Labourers	...	...	... "	5.47	4.87		7.30
Threshing Machine Hands	...	...	... per hour	0.18	0.16		0.24
Harvest Hands	...	...	... per day	1.58	1.22		1.95
Milkers	...	...	... per week	4.87	3.65		6.08
Maize Pickers (without rations)	...	...	per bag of cobs	0.12	0.10		0.14
Hop Pickers (without rations)	...	...	per bushel	0.07	0.06		0.08
Married Couples	...	...	... per week	8.52	7.30		12.17
Female Servants	...	...	... "	3.65	2.43		4.87
Men Cooks	...	...	... "	6.69	4.87		9.73
Stockmen	...	...	per annum	291.99	253.06		379.59
Boundary Riders	...	...	...	253.06	253.06		379.59
Shepherds	...	...	...	219.00	189.80		330.93
Hutkeepers	...	...	...	194.66	126.53		253.06
Generally-useful Men	...	...	... per week	4.87	3.65		7.30
Sheep-washers	...	...	... "	7.30	4.87		8.52
Shearers*, hand or machine	...	...	per 100 sheep	5.47	4.87		6.08
Bush Carpenters	...	...	... per week	9.73	6.08		14.60
Gardeners, market or orchard	...	...	... "	6.08	4.87		8.52
Vineyard Hands	...	...	... "	4.87	4.26		7.30

* It is believed that in some of the higher rates rations are not found.



RIVER BOATS ON THE MURRAY, S.A.

VII.—TRANSPORT AND COMMUNICATION.

The people of Australia possess a valuable asset in the railway systems which have been constructed throughout all the more settled parts of the country. As these systems, with but few exceptions, belong to the State, they can be devoted largely to the development of natural resources and to the increase of settlement by opening up new districts. Due weight must be given to these considerations in any examination of the financial results attendant on the working of Australian railways.

As may be seen from the accompanying map, the eastern, south-eastern, southern, and western parts of Australia are now equipped with a considerable network of lines, providing means for conveying the produce of the agricultural, pastoral, and mining districts to the principal

Railway Systems.

towns and ports. Great progress has been made in the way of railway development during the last fifty years. The first line was opened in 1855, and at the end of that year there were $16\frac{1}{2}$ miles in operation. On the 30th June, 1913, there were no less than 19,734 miles open for traffic, while there were 1775 miles of line in course of construction and 2878 miles authorised, but the construction of which had not then been commenced. These figures are exclusive of the transcontinental

Transport and Communication.

line referred to hereunder. The main interstate line, which permits of direct communication between the four capitals — Brisbane, Sydney, Melbourne, and Adelaide — has a total length of 1790 $\frac{1}{4}$ miles. The journey from Brisbane to Adelaide occupies about three days, including one stop of nearly nine hours at Sydney and another of nearly four hours at Melbourne, while the longest railway journey which can be undertaken in Australia on one continuous line is from Longreach, in Queensland, to Oodnadatta, in South Australia, a total distance of 3303 miles. In Western Australia the railway systems, which connect the principal coastal towns, and which run inland to the gold-fields for nearly 600 miles, are not as yet connected with the railways of the eastern States. The survey of a line

The Transcontinental Railway. between Port Augusta, in South Australia, and Kalgoorlie, on the Western Australian gold-fields, was completed in March, 1909, the route followed being indicated by dotted lines on the map overleaf. The construction of the line, which will be about 1100 miles long, was commenced in September, 1912, the necessary legislation having been passed by the Commonwealth, South Australian, and Western Australian Parliaments. The estimated cost of construction and equipment is about four million pounds, and it is expected that the line will be completed in three years. Another proposal is to extend the main northern line from Adelaide, which at present terminates at Oodnadatta, as far as Pine Creek, the southern terminus of the Northern Territory line from Darwin.



SYDNEY-MELBOURNE EXPRESS.

The table given below shews the mileage of State-owned and private lines open for traffic on the 30th June, 1913. Of the 1960 miles of private railway, 1002 miles were available for general traffic, while 958 miles were used for special purposes only, such as the conveyance of coal, timber, etc., from privately owned or rented lands. In each State of the

Mileage Open for Traffic.

Commonwealth the policy has now been established that the railways should be kept under the control of the Government, and this policy is adhered to, excepting in cases presenting unusual circumstances.

Commonwealth Railway Lines.—Mileage Open, 1912.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	C'wealth.
State-owned	3,930	3,647	4,524	2,168	2,854	507	145	17,775
Private ...	267	51	412	34	973	222	...	1,959
Total ...	4,197	3,698	4,936	2,202	3,827	729	145	19,734

In spite of the great extension of State-owned railways which has taken place in recent years throughout the Commonwealth, there are still vast tracts of country into which lines have not yet penetrated. As population increases and funds are made available by Parliament, the States are constantly providing new lines or extending existing ones to open up lands in places where there is a reasonable prospect of settlement and traffic being likely to follow. At present the railways in course of construction in some of the States are chiefly light lines of the "pioneer" class, and are made with a view to affording communication at moderate speeds to districts in which the traffic would not warrant the expenditure necessary to provide thoroughly equipped lines. As the traffic increases, the permanent way is strengthened in order to carry the heavier types of rolling stock. In this way feeders to the main line are built, providing transport facilities to a large area of country and opening up extensive districts to settlement. In order to still further supplement transport facilities the employment of "road" trains has recently been introduced with satisfactory results. Motor trains are also being tested on country lines.

Opening New Areas for Settlement.

A Year's Operations.

The particulars given below for the last financial year shew the large proportions which the traffic on the Government lines has reached:—

Government Railways in the Commonwealth, 1912-13.

Miles open	...	17,775	Train miles run	...	58,169,000
Cost of construction	...	\$833,283,000	Number of passengers	...	249,855,000
Gross earnings	...	\$97,107,000	Tons of goods and live stock	...	26,964,000
Working expenses	...	\$66,160,000	Number of employees	...	83,503
Net earnings { Total	...	\$30,941,000	Locomotives in use	...	30,98
Net earnings { Percent. on cost	...	3.71	Passenger coaches in use	...	43,49
Interest on capital cost	...	\$28,950,000	Goods trucks & other vehicles in use	...	67,192
Net profit	...	\$1,961,000			

Transport and Communication.

THE GOVERNMENT RAILWAY SYSTEMS OF THE COMMONWEALTH.



EXPLANATION OF MAP.—The continuous lines denote the existing railway lines of Australia. the heavier lines being the main routes.

Of the two transcontinental lines, viz., one joining the railways of South and Western Australia—and thus connecting continuously by railway Queensland, New South Wales, Victoria, South Australia, and Western Australia, the former has been commenced, and is shewn — — —; while the latter, the construction of which is to be deferred for the present, is shewn - - - - -.

LIST OF PRINCIPAL SECTIONS OF RAILWAYS.

Miles.		Miles.		Miles.	
Townsville to Winton ...	368	Sydney to Bourke ...	508	Adelaide to Broken Hill ...	334
Townsville to Selwyn ...	552	Sydney to Hay ...	460	Adelaide to Oodnadatta ...	688
Rockhampton to Longreach	428	" Nimmitabel ...	291	Perth to Laverton ...	586
Brisbane to Cunnamulla...	604	" Melb'rne (17 hrs.)	582½	" Meekatharra ...	640
Toowoomba to Newcastle	520	Melb'rne to Adelaide (17½ hrs.)	482½	" Albany ...	340
Brisbane to Sydney (27½ hrs.)	725	" Merbein ...	358	Hobart to Launceston ...	133
Newcastle to Inverell ...	405	" Swan Hill ...	215		

The above figures shew the gratifying results which have been obtained by the States in carrying out their railway policies. Notwithstanding the sparse population of the Commonwealth, the Government-owned railways, which cost \$833,283,000, shewed for the financial year 1912-13 net receipts equal to 3.71 per cent. on

Profits in working. the cost of construction and equipment, and, in spite of the demand on the finances occasioned by the opening of new lines in furtherance of the Governments' policy of development, it is gratifying to be able to record a net profit on the year's operations of \$1,961,000.

A considerable proportion of the population of Australia lives on a fringe of country near the coast, hence it will be easily understood that sea-borne traffic by coastal vessels plays an important part in the transport of the country.

Coastal Steamers. At intervals along the coast, rivers or harbours provide ports of call for the vessels, thus enabling produce to be taken at a small cost to the various markets. On some routes the passenger and goods traffic alone would not pay. A considerable addition to the profits, however, is made by sums received from the Government for the regular conveyance of mails. The first regular coastal service was initiated in 1851, while others shortly followed. From the outset success attended these enterprises, and the services were rapidly extended and their operations broadened. At the end of the year 1912 the coastal shipping companies carrying on business in the Commonwealth, owned 180 steamships engaged in regular coastal and interstate services, having a gross tonnage of 311,144, the aggregate indicated horse-power being 276,703. The total passenger accommodation of these vessels was 15,460, and the total number of crew employed was 5722. Though this shipping carries goods from port to port within the Commonwealth, and is called coastal, it may be explained that many of the vessels are magnificent and fast ocean-going steamships, ranging up to 10,000 tons gross tonnage, and replete with all modern comforts and conveniences.

The postal service of the Commonwealth extends to all the settled parts of the country, and postal facilities are furnished to new settlements as soon as they are formed. At the end of the

The Postal Service. year 1912 there were 5772 post-offices in the Commonwealth, being an increase of 108 over the number for the previous year. During the year 1912 there were 479,673,000 letters and postcards, or one hundred per head of the population, and 138,170,000 newspapers, or twenty-nine per head of the population, dealt with at the Australian post offices. Postal rates in Australia are low, and compare favourably with those in other countries.

Transport and Communication.

Facilities are provided by the Post-office for the transmission of money by means of money orders and postal notes. A money order, which may be issued for payment either within the Commonwealth or abroad, may not be granted for a larger sum than \$97, nor a postal note, which is payable only within the Commonwealth, for more than \$4.87. Registered letters are received and despatched at all post-offices. During the year 1912 money orders to the value of over \$36,095,305 were issued, the value of postal notes sold being \$15,743,335. The rates of commission charged on money orders are low, and vary according to the value of the order and to the place in which they are payable. Rates of poundage on



PORTION OF SYDNEY HARBOUR SHEWING CIRCULAR

Postal notes are also low. Full particulars regarding these may be found in the "Official Year Book."

Australia is well supplied with telegraph and telephone systems, both of which are owned and operated by the Commonwealth Government.

Telegraphs and Telephones. The total length of telegraph lines, exclusive of railway telegraphs, available for use in 1912 was 47,923 miles, the corresponding length of telegraph wire being 101,218 miles. In the same year there were over 13 million telegrams, exclusive of cablegrams, dealt with by the Postal Department. The telephone system is largely utilised throughout the more densely populated parts of Australia, and is being extended in the rural districts, so that the farmers may benefit by being kept in close touch with the markets. At the end of the year 1912 there were about 334,223 miles of telephone

wire, exclusive of telegraph and railway telephone wire, available for use, the number of telephone connections being 95,965.

By the erection of nineteen "wireless" telegraphic stations, radio-telegraphic communication has been established with Asia, New Zealand, and the islands of the Pacific.

The growth of the Postal Department furnishes a good index of the prosperity of the country, and the following table, which gives figures for the years 1901 and 1912-13, shews that even during the short

interval covered by those years there has been remarkable progress:—



OUS BAYS AND SUBURBS IN DISTANCE.

Commonwealth Posts and Telegraphs, 1901 and 1912-13.

Particulars.	Year.	
	1901.	1912-13.
Number of post-offices...	No. 4,994	No. 5,772
Postal revenue ...	\$ 11,380,000	\$ 20,561,000
Letters and postcards ...	No. 220,178,000	No. 479,673,000
Newspapers ...	No. 102,727,000	No. 133,170,000
Parcels and packets ...	No. 41,531,000	No. 74,473,000
Value of money orders issued ...	\$ 20,405,000	\$ 36,095,000
Value of postal notes issued ...	\$ 6,277,000	\$ 15,743,000
Number of telegraph stations ...	No. 2,567	No. 4,180
Number of inland telegrams ...	No. 6,428,000	No. 13,343,000
Number of telephone exchanges ...	No. 120	No. 1,032
Number of connections ...	No. 24,583	No. 95,965
Length of telephone wire ...	Miles 47,276	Miles 334,223
Number of cablegrams ...	No. 225,125	No. 586,484



SMALL RIVER AND COASTAL STEAMER, N.S.W.

VIII.—THE TRADE OF THE COMMONWEALTH.

The Commonwealth as a Trading Country.

Relatively to population, the Commonwealth of Australia occupies a high position amongst the trading countries of the world, as the following table will shew:—

Special Trade of Various Countries (Imports for Home Consumption and Exports of Domestic Products including Bullion and Specie), for Latest Available Year.

Country.	Year ended.	Trade.			Trade per Inhabitant.		
		Imports.	Exports.	Total.	Imports.	Exports.	Total.
		\$	\$	\$	\$	\$	\$
C'WEALTH OF AUSTRALIA*	{ 31/12/13	371,430,000	365,542,000	736,972,000	77.96	76.12	153.48
	{ 31/12/12	364,715,000	369,673,000	734,388,000	78.51	79.59	158.10
United Kingdom* ...	{ 31/12/13	3,266,754,000	2,557,189,000	5,823,943,000	70.97	55.56	126.53
	{ 31/12/12	3,102,427,000	2,371,104,000	5,473,531,000	67.95	51.93	119.88
Canada ...	... 31/3/12	573,763,000	294,247,500	868,010,000	78.80	40.76	119.56
New Zealand ...	... 31/12/12	97,659,000	103,523,000	203,182,954	97.19	100.94	198.13
United States of America	... 30/6/13	1,664,880,000	2,124,484,000	3,789,364,000	17.74	22.65	40.39
Argentine Republic	... 31/12/11	369,445,000	318,964,000	688,409,000	59.39	51.28	110.67
Austria-Hungary ...	... "	655,594,000	514,478,000	1,170,072,000	13.16	10.32	23.48
Belgium ...	... "	913,721,000	704,883,000	1,618,604,000	121.99	94.11	216.10
Brazil ...	... "	257,660,000	325,276,000	582,936,050	11.15	14.07	25.22
Denmark ...	... "	170,276,000	146,172,000	316,448,200	61.44	52.72	114.16
France ...	... "	1,660,111,000	1,238,429,000	2,898,540,000	41.91	21.27	73.18
German Empire ...	... "	2,394,476,000	1,967,873,000	4,362,349,000	36.46	29.97	66.42
Italy ...	... "	659,322,000	430,476,000	1,089,798,000	19.02	12.41	31.43
Japan ...	... "	265,408,000	238,753,000	504,161,000	51.48	46.31	97.79
Norway ...	... "	125,450,000	73,254,000	203,704,000	52.01	32.44	84.45
Portugal ...	... "	75,646,000	37,759,000	113,405,000	14.01	7.00	21.01
Spain ...	... "	193,665,000	190,073,000	383,738,000	9.88	9.69	19.57
Sweden ...	... "	188,341,000	179,405,000	367,746,000	33.86	32.26	66.12
Switzerland...	... "	358,928,000	250,891,000	609,819,000	94.74	66.23	160.97
Uruguay ...	... 31/12/10	41,721,000	41,589,000	83,310,000	36.28	36.17	72.45

From the figures just given it will be seen that in total trade per head of population the Commonwealth occupies fourth place on the list, while,

if allowance be made for the value of imported raw materials re-exported in manufactured form by Belgium and Switzerland, its position would doubtless be still higher.

The volume of its external trade is not necessarily an unequivocal test of a country's prosperity, as the total may obviously be affected by various factors, nevertheless an impartial survey of the **Growth of Commonwealth Trade.** general characteristics of the Commonwealth's trade will shew that there has been rapid and substantial progress. The following table shews the growth of the trade of the Commonwealth at quinquennial periods since 1888, and for the last three years :—

Oversea Trade of the Commonwealth, 1888 to 1913.

Year.	Recorded Value.			Value per Inhabitant.*		
	Imports.	Exports.	Total Trade.	Imports.	Exports.	Total Trade.
	\$1000.	\$1000.	\$1000.	\$	\$	\$
1888 ...	179,484	140,644	320,128	61.22	47.98	109.20
1893 ...	115,654	161,692	277,346	34.69	48.50	83.19
1898 ...	153,204	195,466	348,670	42.08	53.67	95.75
1903 ...	184,010	234,812	418,822	47.27	60.31	107.58
1908 ...	242,350	312,974	555,324	57.77	74.62	132.39
1911 ...	325,899	386,804	712,703	72.57	86.16	158.73
1912 ...	380,366	384,926	765,292	81.90	82.87	164.77
1913 ...	388,108	382,142	770,250	80.81	79.55	160.36

* Reckoned on mean population for year.



VESSELS LOADING AT DARLING HARBOUR, SYDNEY, N.S.W.

Trade of the Commonwealth.

The total value of imports during 1913 was \$388,107,000 and the value per inhabitant was \$79.71. The following table shews the average yearly value of imports from the principal countries of shipment for each of the quinquennial periods 1898-1902 and 1903-7, 1908-12, and also for the year 1913:—

Imports into the Commonwealth from Various Countries, 1898 to 1913. (Including Bullion and Specie.)

Country.	Yearly Average.			
	1898-1902.	1903-7.	1908-12.	1913.
	\$	\$	\$	\$
United Kingdom	113,569,447	120,568,335	178,284,231	231,724,175
British Possessions—				
Canada	1,237,572	1,455,983	3,355,861	5,639,535
Ceylon	2,166,010	3,154,312	3,695,099	4,713,267
Fiji	453,063	397,151	1,525,016	2,776,618
Hong Kong	1,478,092	1,418,131	1,331,215	1,779,250
India	4,622,189	6,891,897	10,229,878	14,425,693
Mauritius	830,533	279,827	250,390	630,692
New Zealand	9,121,016	11,907,314	12,655,378	12,234,221
Papua	298,685	327,140	354,982	439,898
South African Union	25,973	62,326	733,362	619,334
Straits Settlements	1,258,659	1,055,275	2,720,146	3,480,722
Other British Possessions	160,417	636,713	1,432,973	1,458,266
Total British Possessions ..	21,652,209	27,586,060	38,284,300	48,197,496
Total British Countries ...	135,221,656	148,154,404	216,568,531	279,921,671
Foreign Countries—				
Belgium	2,015,293	3,355,233	7,139,814	10,992,785
Chile and Peru	160,879	88,138	158,008	512,503
China	1,226,827	515,121	387,145	436,755
France	2,440,304	2,226,166	2,510,758	3,043,535
Germany	11,771,367	14,029,253	19,661,595	24,122,750
Hawaiian Islands, Bismarck Archipelago, New Caledonia, New Hebrides, and South Sea Islands	740,307	747,859	1,006,274	1,009,184
Italy	730,481	886,235	1,457,760	2,201,210
Japan	1,284,437	2,033,158	3,549,516	4,470,820
Java	2,479,724	1,969,484	3,741,069	3,474,050
Netherlands	232,992	558,307	1,058,424	1,262,056
Norway and Sweden	2,049,719	1,835,794	4,474,679	6,659,888
Philippine Islands	371,246	376,945	510,352	608,496
United States of America	22,914,178	25,257,209	33,808,268	46,342,848
Other Foreign Countries...	1,568,862	2,102,498	1,910,155	3,048,239
Total Foreign Countries ...	49,986,616	55,981,400	81,373,817	108,185,119
Grand Total ...	185,208,272	204,135,804	297,942,348	388,106,790

The relative proportions of the Commonwealth imports shipped from the United Kingdom, British Possessions and Foreign Countries, respectively, are shewn hereunder:—

Percentages of Imports from Various Countries on Total Imports into the Commonwealth, 1898 to 1913.

Countries.				1898-1902.	1903-7.	1908-12.	1913.
				%	%	%	%
United Kingdom	...	...		61.31	59.06	59.84	59.71
British Possessions	...	...		11.69	13.51	12.85	12.42
Foreign Countries	...	...		27.00	27.43	27.31	27.87
Total				100.00	100.00	100.00	100.00



CIRCULAR QUAY, FROM MILSON'S POINT, SYDNEY, N.S.W.

As the figures shew, the proportion of imports from the United Kingdom is now smaller than it was during the first quinquennium, while imports from foreign countries increased during the period covered by the table. Notwithstanding that the imports from the United Kingdom have increased from an annual average of \$113,569,447 during the quinquennial period of 1898-1902, to \$231,724,175 in 1913, an increase equal to 104.05 per cent., her proportion of the total imports into the Commonwealth has declined during the same period from 61.31 per cent. to 59.71 per cent. This subject is discussed at some length in the "Commerce" chapter in the "Official Year Book of the Commonwealth."

Classification of Imports.

The imports into the Commonwealth during the year 1913 may be classified under the following headings:—

Trade of the Commonwealth.

Imports into the Commonwealth, arranged in Classes, 1901 and 1913.

Classes.	1901.	1913.	Classes.	1901.	1913.
	\$	\$		\$	\$
I. Animal Foodstuffs, etc.	3,860,961	4,612,028	XIV. Metals, Ores, etc. ...	4,790,290	7,668,410
II. Vegetable	14,239,493	16,136,675	XV. Metals, part manfd.	5,169,795	7,301,968
III. Beverages (non-alcoholic), etc. ...	5,130,935	8,921,555	XVI. Metals, manufactd.	36,458,526	80,897,550
IV. Alcoholic Liquors, etc.	8,980,942	10,199,812	XVII. Leather, etc. ...	2,547,963	8,511,844
V. Tobacco, etc. ...	5,493,779	5,425,971	XVIII. Wood, etc. ...	8,829,806	17,391,898
VI. Live Animals ...	196,152	706,698	XIX. Earthenware, etc. ...	4,502,063	7,692,164
VII. Animal Substances, etc.	603,537	2,029,547	XX. Paper, etc. ...	8,425,628	15,255,461
VIII. Vegetable	2,235,510	6,541,655	XXI. Jewellery, etc. ...	5,184,584	6,864,556
IX. Apparel, etc. ...	58,716,881	95,890,381	XXII. Instruments, etc. ...	1,063,038	3,672,256
X. Oils, etc. ...	6,279,094	9,585,321	XXIII. Drugs, etc. ...	7,164,371	12,133,278
XI. Paints, etc. ...	1,873,866	2,967,918	XXIV. Miscellaneous	15,282,690	54,792,552
XII. Stones, etc. ...	637,982	1,062,527			
XIII. Specie... ..	838,971	1,835,765			
			Grand total ...	206,506,857	338,106,790

For detailed reference to the imports from each country the reader is referred to the published returns of "Trade and Customs and Excise

Revenue of the Commonwealth." Space will

Imports from Various Countries. permit of the inclusion of only the more important items, of the produce of the countries mentioned. For the year 1913 these were as follows:—

United Kingdom.—Apparel and textiles, \$57,258,493; iron and steel, \$17,113,151; machines and machinery, \$12,396,925; other metal manufactures, \$28,567,086; drugs and chemicals, \$4,391,310; spirits, \$4,282,586; arms, ammunition, and explosives, \$3,405,943; books and periodicals, \$2,907,572; paper, \$4,385,256; jewellery and precious stones, \$1,023,205; vessels (ships), \$7,681,638; stationery, \$1,416,263; paints, colours and varnishes, \$2,405,387.

British Possessions: CANADA.—Timber, \$330,868; fish, \$259,130; agricultural implements and machinery, \$1,269,190; paper, \$753,193; vehicles, \$1,076,357.

CEYLON.—Tea, \$3,958,906.

FIJI.—Bananas, \$1,151,522; sugar, \$1,381,715; copra, \$122,525.

MAURITIUS.—Sugar, \$630,809.

INDIA.—Bags and sacks, \$9,051,313; rice, \$1,127,018; tea, \$1,458,071; hessians, \$1,433,724; oils and waxes, \$406,859.

NEW ZEALAND.—Gold Bullion, \$5,429,265; timber, \$2,124,056; skins and hides, \$802,749; flax and hemp, \$569,841.

STRAITS SETTLEMENTS.—Rice, \$1,981; rubber and Rubber Manufactures, \$466,703; sago and tapioca, \$278,776; spices, \$290,826.

Foreign Countries: AUSTRIA-HUNGARY.—Apparel and textiles, \$749,436; furniture, \$138,332; china and glassware, \$141,033; machinery and manufactures of metals, \$75,685.

BELGIUM.—Apparel and textiles, \$1,104,267; glass and glassware, \$1,088,193; iron and steel, \$928,823; jewellery, \$213,496; matches, \$60,686; metal manufactures, including machinery, \$1,143,141.

CHILE.—Soda nitrate, \$181,596.

CHINA.—Tea, \$439,013; rice, \$291,176; apparel and textiles, \$579,399.



WOOL TEAMS STARTING FOR THE RAILWAY.

FRANCE.—Apparel and textiles, \$4,673,941; drugs and chemicals, \$1,104,306; fancy goods, \$75,719; pipes (smoking), \$254,672; motor vehicles and parts, \$779,473; rubber manufactures, \$258,814; leather, \$71,592; spirits, \$1,083,049; wine, \$676,282; machinery and metal manufactures, \$217,599.

GERMANY.—Ale and beer, \$649,423; apparel and textiles, \$8,248,641; arms, ammunition and explosives, \$486,277; chinaware, \$353,853; drugs and chemicals, \$1,298,453; fancy goods, \$666,997; glass and glassware, \$743,694; indiarubber and manufactures thereof, \$1,262,124; metal and metal manufactures, \$9,882,405; jewellery, \$390,522; leather and manufactures thereof, \$429,250; musical instruments, \$1,753,214; paper, \$891,214; stationery, \$405,643.

ITALY.—Apparel and textiles, \$979,907; fruits, \$194,804; matches, \$35,891; marble and stone, \$121,703.

JAPAN.—Apparel and textiles, \$2,310,659; sulphur, \$392,308; oils, fats and waxes, \$303,591; timber, \$378,278.

JAVA.—Sugar (cane), \$1,907,776; rubber and manufactures thereof, \$35,151; kapok, \$623,611; tea, \$584,353.

NETHERLANDS.—Apparel and textiles, \$234,456; spirits, \$646,577; cocoa and chocolate, \$321,782; paper, \$151,462.

NORWAY.—Calcium carbide, \$578,231; timber, \$2,152,267; fish (preserved in tins), \$370,443; milk (preserved), \$53,196; paper, \$744,940.

PHILIPPINE ISLANDS.—Flax and hemp, \$362,856; cigars, \$262,152.

SWEDEN.—Calcium carbide, \$210,863; cream separators, \$392,031; matches and vestas, \$78,293; paper, \$1,092,076; timber, \$1,137,326.

SWITZERLAND.—Apparel and textiles, \$3,893,402; watches, \$541,308; cocoa and chocolate, \$458,834; confectionery, \$259,578.

Trade of the Commonwealth.

UNITED STATES OF AMERICA.—Apparel and textiles, \$2,989,350 ; cameras, kinematographs, magic lanterns, \$605,620 ; fish, \$980,199 ; leather, \$1,347,917 ; medicines, \$474,169 ; metal manufactures, \$7,991,317 ; machines and machinery, \$6,983,047 ; oils—kerosene, \$2,443,920 ; lubricating, \$891,452 ; paper, \$1,385,409 ; stationery, \$579,121 ; timber, \$7,356,746 ; tobacco, and preparations thereof, \$3,904,980 ; wood manufactures, \$511,787 ; vehicles, \$2,916,980.

The value of the exports from the Commonwealth during the year 1913 was \$382,141,000, and the value per inhabitant was \$78.55, of which \$365,431,000, equal to \$75.13 per head, was the produce of the Commonwealth.

The quantity and value of each of the more important articles of domestic produce exported during the year named are given in the following table:—

Chief Articles of Export Australian Produce) from the Commonwealth in the year 1913.

Article.	Quantity.	Value.
		\$
Butter lb.	75,695,642	17,348,936
Meats—Preserved by cold process—Beef "	218,918,606	13,029,688
" " Mutton and lamb "	204,931,783	14,096,158
" " Rabbits and hares pair "	9,366,290	2,421,447
Meat preserved in tins... .. lb.	52,124,461	5,273,599
Fruits, fresh—Apples cntl.	492,711	1,582,271
Grain and pulse—Wheat "	25,753,732	38,871,568
" Flour "	4,433,151	9,069,655
Animals—Horses No.	8,550	784,198
Hides—Cattle "	1,066,315	8,041,398
Skins—Rabbit and hare lb.	9,788,323	3,024,263
" Sheep No.	11,103,934	12,113,467
Pearlshell cwt.	41,308	1,862,541
Wool—Greasy lb.	531,434,544	104,532,247
" Scoured and washed "	64,450,086	23,346,270
Bark—Tanning cwt.	142,127	289,040
Tallow—Unrefined "	1,437,697	10,513,009
Coal... .. ton	2,098,505	5,457,876
Gold—Bullion and matte oz.	393,824	6,696,533
" Specie... .. "	...	3,456,136
Silver—Bullion and matte "	7,960,521	4,307,196
Copper—Matte, ingots, etc. cwt.	846,411	1,401,230
Lead—Matte and pig "	2,053,588	8,992,023
Silver and silver-lead ore "	239,241	803,071
Concentrates "	12,857,833	19,615,275
Leather, and manufactures thereof "	...	3,026,779
Timber—Undressed sup. ft.	134,895,846	4,726,787

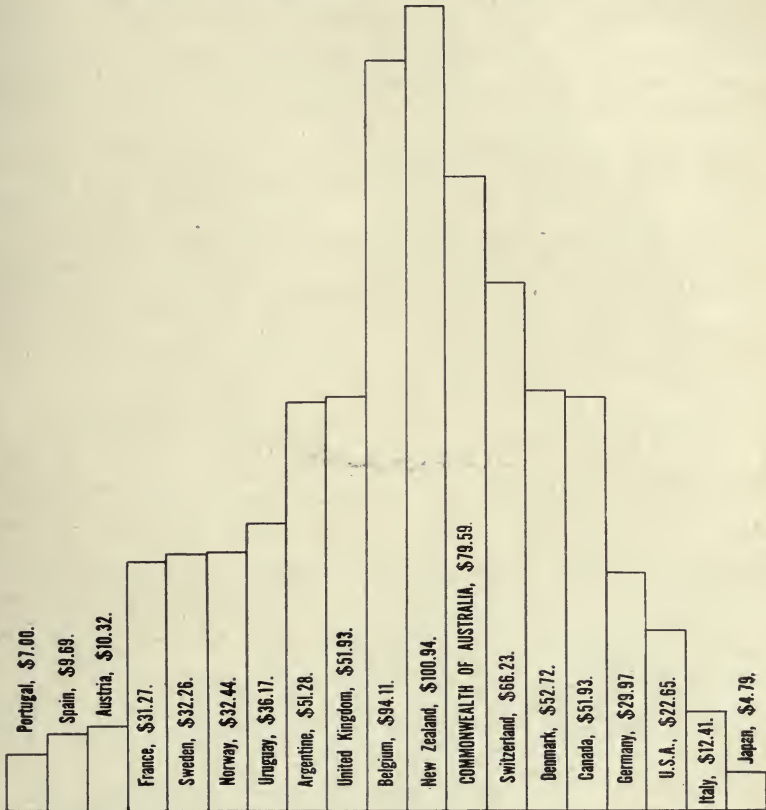
The destination of exports at various periods is shewn in the next table :—

Percentages of Commonwealth Exports to Various Countries on Total Exports, 1898-1913.

Countries.					1898-1902.	1903-7.	1908-12.	1913.
					%	%	%	%
United Kingdom	...	...	...	53.03	46.23	45.45	44.26
British Possessions	...	...	...	19.10	23.04	16.41	12.04
Foreign Countries	...	...	...	27.87	30.73	38.14	43.70
Total	...	...	...	100.00	100.00	100.00	100.00

From the comparative table on page 82 it will be seen that the value of domestic products exported from Australia is only exceeded by two of the countries named, viz., New Zealand and Belgium.

Value of Exports per Inhabitant, Australia and Other Countries, 1912.



As was the case in regard to imports, so with exports, the space available permits only of reference to the more important articles sent to the chief countries. Exports to Various Countries. These were as follows in 1913 :—

United Kingdom.—Wheat, \$25,416,643 ; butter, \$15,480,209 ; gold, specie, bullion, matte and ore, \$4,655,642 ; wool, \$46,021,324 ; copper, concentrates, matte, ingots, and ore, \$4,321,373 ; silver, concentrates, ore, specie, bullion and matte, \$2,495,155 ; tin, ingots, \$2,209,707 ; tallow, \$7,302,245 ; hides and skins, \$10,416,583 ; mutton and lamb, \$13,201,441 ; leather, \$2,043,490 ; frozen rabbits and hares, \$2,334,179 ; lead, pig and matte, \$5,995,797.

British Possessions : CANADA.—Butter, \$48,593 ; meats, \$398,382 ; timber, undressed, \$39,069 ; wool, greasy, \$26,090 ; skins, \$162,339.

CEYLON.—Specie, \$2,822,607 ; silver bullion, \$1,342,106 ; flour, \$219,448. (The bulk of the bullion and specie shipped to Ceylon is transferred to India and other destinations.)

Trade of the Commonwealth.

FIJI.—Specie, \$234,568; apparel and textiles, \$141,729; timber (undressed), \$118,837; biscuits, \$100,251; bran, pollard, etc., \$146,372; flour, \$103,410; coal, \$89,014; machinery and other metal manufactures, \$303,557.

HONG KONG.—Specie, gold, \$2,798,459; fish, \$183,041; lead, pig, \$492,886; sandalwood, \$201,846; flour, \$99,473; butter, \$105,658.

INDIA.—Gold bullion, \$2,048,186; specie, \$894,474; timber, undressed, \$792,442; silver bullion, \$1,078,333; horses, \$525,224; coal, \$160,684; wool, \$148,849.

NEW ZEALAND.—Specie, gold, \$2,141,288; timber, \$1,413,927; coal, 1,238,857; sugar (cane), \$1,000,760; apparel and textiles, \$333,043; machinery, \$372,180; other manufactures of metals, \$347,035; tobacco and preparations thereof, \$408,397; indiarubber and manufactures of, \$455,914; fruit, \$241,323; leather and leather manufactures, \$187,012; fertilisers, \$505,071; flour, \$121,177; tea, \$230,154; books, \$308,097; optical, surgical, and scientific instruments, \$174,929; medicines, \$204,303; tin ingots, \$138,702.



WHARVES AND RAILWAY, NEWCASTLE, N.S.W.

SOUTH AFRICAN UNION.—Sheep, \$204,298; butter, \$438,200; fruit, \$76,361; wheat, \$4,023,169; flour, \$1,487,056; jams and jellies, \$85,793; leather, \$416,004; beef, \$320,736; mutton and lamb, \$97,020; other meats, \$272,075; tallow, \$457,783; timber, \$1,138,854.

STRAITS SETTLEMENTS.—Flour, \$912,476; coal, \$397,944; horses, \$56,520; butter and substitutes, \$164,685; tin ore, \$2,179,612.

Foreign Countries: **ARGENTINE REPUBLIC.**—Agricultural implements, \$844,193.

BELGIUM.—Wool, \$11,615,963; silver ore and concentrates, \$7,070,183; copper ingots and matte, \$3,543,866; zinc concentrates,

\$6,828,466; tin ingots, \$283,395; lead, pig, and matte, \$306,170; hides and skins, \$4,017,461; wheat, \$1,566,951.

CHILE.—Coal, \$1,797,986.

CHINA.—Copper ingots, \$40,271; leather, \$55,995; lead, pig, \$247,718; butter, \$150,829; specie, gold, \$231,614; flour, \$96,261; sandalwood, \$27,219.

FRANCE.—Wool, \$36,157,870; hides and skins, \$6,591,999; copper ingots, \$764,260; lead, pig, \$219,969; concentrates (excluding gold), \$886,114.

GERMANY.—Wool, \$22,839,549; copper ingots and matte, \$1,787,173; bark, tanning, \$115,109; ores and concentrates, \$3,162,629; hides and skins, \$2,151,123; sausage casings, \$397,243; lead, pig, \$180,520; timber, \$79,471; fruit, fresh, \$464,499.

ITALY.—Wool, \$1,249,335; hides and skins, \$630,577; copper in matte, \$90,396; wheat, \$165,733; tallow, \$337,740; beef, \$365,625.

JAPAN.—Wool, \$3,577,012; lead, pig, \$1,221,400; tallow, \$367,231; manures, \$218,518.

JAVA.—Flour, \$1,592,880; coal, \$701,418; butter, \$408,149; horses, \$104,461; cattle, \$112,092; gold, specie, \$24,333.

NETHERLANDS.—Concentrates, other than gold, \$1,484,993; tallow, \$250,132.

PERU.—Wheat, \$836,587; coal, \$142,605.

PHILIPPINE ISLANDS.—Coal, \$126,234; meats, \$1,109,367; flour, \$624,434; butter, \$165,906; horses, \$10,030; cattle, \$125,762.

UNITED STATES OF AMERICA.—Wool, \$3,627,313; copper in matte, \$3,455,241; skins, \$3,030,697; gold in matte, \$675,012; tin ingots, \$120,832; silver in matte, \$114,189; coal, \$246,049; pearlshell, \$250,000.

It has been urged that the Commonwealth tariff is an unduly restrictive one, but a comparison with the under-mentioned countries shews that dutiable goods other than intoxicants and tobacco are subject to a lower average ad valorem rate of duty in the Commonwealth than in any of the other countries named. In the table below will be found comparisons with Canada, New Zealand, and the United States of America:—

Proportion of Free Goods and Rates of Import Duty.

Country	...	...	...	...	Common-wealth of Australia.	Canada.	New Zealand.	United States of America.
Year ended	...	...	...	...	31/12/12	31/3/12	31/12/12	30/6/12
Percentage of free merchandise...	...				38.10	35.70	51.76	53.73
Equivalent <i>ad valorem</i> rates of duty on:—					per cent.	per cent.	per cent.	per cent.
Spirits, wines, and malt liquors	...				137.73	120.80	183.80	88.88
Tobacco, and preparations thereof	...				144.20	22.30	130.60	78.76
Other dutiable merchandise	...				21.03	23.86	22.03	37.02
Other merchandise, dutiable and free	...				12.71	15.34	10.09	16.57
Total dutiable merchandise	...				28.32	26.12	33.67	40.16
Total merchandise, dutiable and free	...				17.53	16.79	16.24	18.58



SHIPPING SILVER BULLION, PORT PIKE, S.A.

Reference has already been made to the interstate and coastal steamship services between ports in the Commonwealth. Appended is an abstract of total shipping tonnage—oversea and coastwise—which entered the more important ports of Australia during the year 1913, together with similar information in regard to some of the ports of the United Kingdom for the year 1912.

Oversea Shipping.

Shipping of Ports, Commonwealth and United Kingdom.

Port.	Tonnage Entered.	Port.	Tonnage Entered.
COMMONWEALTH—		UNITED KINGDOM—	
Sydney	9,018,785	London	18,746,936
Melbourne	6,128,266	Liverp'l (inc. Birkenh'd)	15,147,198
Newcastle	4,661,703	Cardiff	11,493,422
Port Adelaide	3,505,443	Tyne ports	10,997,315
Brisbane	2,832,819	Southampton	7,288,261
Fremantle	2,399,275	Glasgow	5,529,820
Townsville	1,597,173	Hull	5,469,490
Albany	1,403,135	Plymouth	4,665,488
Mackay	1,067,835	Belfast	3,347,588
Rockhampton	1,000,302	Middlesbrough	3,253,830
Hobart	850,424	Newport	3,230,616
		Swansea	2,992,748

From the figures in the above table it may be seen that the shipping business of the port of Sydney is only exceeded by that of four ports in the United Kingdom, viz., London, Liverpool, Cardiff, and the Tyne ports.

The tonnage of vessels owned in Australia has rapidly increased, and in 1912 there were 440,367 tons (net) of shipping on the registry books of various ports of the Commonwealth.

The Great Shipping Ports of the British Empire, 1912.



The ship-building industry has been established in Australia for some years, though it cannot be said to have been developed in the past with any degree of rapidity. Plans are, however, projected for the building of new yards, and with the development of the iron industry, now established at Lithgow in New South Wales, for the manufacture of pig iron and steel, there is every prospect of a marked development of ship-building in Australia in the near future.



WHARVES AT LAUNCESTON, TAS.



1. RICHMOND RAILWAY STATION, VIC.

2. CHATSWOOD RAILWAY STATION, N.S.W.

IX.—COMMONWEALTH AND STATE FINANCE.

A more or less adequate account of the finances of the Commonwealth as a whole, and of the States as component parts thereof, is given in the chapters on Commonwealth and State Finance, in the "Commonwealth Official Year Book," No. VII. (see pp. 692 *et seq.*)

Under the Constitution, the Federal Government alone can impose duties of Customs and Excise, State powers in this respect having passed to the Commonwealth on its inauguration.

Commonwealth Revenue. The Constitution also confers on the Federal Government the power to make laws regarding other forms of taxation, but until the passing in 1910 of an Act imposing a graduated tax on the unimproved value of land this power had not been exercised. Customs and Excise receipts have constituted, so far, the major portion of the Federal Treasurer's revenue, but there are, in addition, revenues from services transferred from State to Commonwealth control. The revenue from all sources for the financial year 1912-13 was \$106,612,226 of which Customs and Excise yielded nearly 73 million dollars, while postal receipts accounted for 19 million dollars. Patents and Trade Marks furnished together a sum of about \$117,000. Per head of population the total receipts amounted to \$22.53.

At the outset, it may be noted that up to the present the Commonwealth Government has only raised one loan. It has, however, assumed responsibility for the debts on the Northern Territory, and the railway from Port Augusta to Oodnadatta, and the total Commonwealth debt on 30th June, 1913, amounted to \$36,163,189. The disbursement by

the Commonwealth Treasurer of the revenues collected fell naturally, under the "book-keeping" system (see sections 89 and 93 Commonwealth Constitution Act), into three divisions: (1) Expenditure on transferred services; (2) expenditure on new services; (3) payments to States of surplus revenue. Of these three, the first two were actual expenditure, while the third item was merely a transfer, the actual expenditure being incurred by the States. Under the Surplus Revenue Act of 1910, however, the book-keeping system was abolished, and provision was made for the payment to each of the States for a period of ten years, and thereafter until Parliament otherwise provides, of a sum of \$6.08 per annum per head of the population of the State, with a special payment to Western Australia, diminishing on a sliding scale, for a similar period, and with a special deduction aggregating \$2,189,954 in respect of the year 1910-11. Moreover, a special payment of \$4,379,908 is being made to Tasmania in ten annual instalments as a compensation for her financial sacrifices at the time of Federation. All surplus revenue (if any) in the hands of the Commonwealth Treasurer at the close of each financial year is payable to the several States in proportion to the population. The expenditure by the Commonwealth Government for the financial year ended 30th June, 1913, was \$76,831,195. Per head of population the total expenditure averaged \$16.22.

The table hereunder gives a comparison of the surplus revenue actually paid to the several States during the five years 1906-1910, together with the statutory three-fourths of net Customs and Excise revenue for the same period:—

Payments to States of Commonwealth Surplus Revenue, 1906 to 1910.

Particulars.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.
	\$	\$	\$	\$	\$
Payment on account of period	35,936,572	38,180,988	43,102,695	38,593,775	41,328,983
Three-fourths of net Customs and Excise revenue	31,897,762	34,258,533	41,493,128	38,593,775	41,328,983
Amount paid to States out of the one-fourth retainable by Commonwealth	4,038,810	3,922,455	1,609,567	...	...

The table also shews the amount paid to the States out of the one-fourth retainable by the Commonwealth. For the period since federation this amounted in all to \$29,486,974, *i.e.*, the Commonwealth returned to the States surplus revenue to the extent of about 81½ per cent. of the net revenue from Customs and Excise, instead of the 75 per cent. minimum required by the Constitution. In the year 1912-13 the Commonwealth, under the new arrangement, paid to the States the sum of \$29 320,707.

**Cost of Commonwealth
Departments.**

The cost of the various branches of the Commonwealth service during the year 1912-13 is shewn hereunder:—

Departments, etc.	1912-13.	Departments, etc.	1912-13.
	\$		\$
Governor-General ...	105,351	Trade and Customs ...	4,262,059
Parliament ...	1,368,775	Defence ...	12,714,808
Prime Minister's... ..	280,115	Postmaster-General ...	23,269,593
External Affairs ...	2,626,592	All other Expenditure ...	17,082,885
Attorney-General ...	323,709		
Home Affairs ...	632,517	Total	76,829,195
Treasury ...	14,162,791		



BUFFALO GORGE, VIC.

It is impossible to draw any hard and fast deductions from mere consideration of the actual totals of revenue and expenditure of the States as compared with similar figures for other countries.

Financial Accounts of the States. In the first place, the functions of central and local government are by no means identical even throughout the Australian States themselves, while they differ widely from those in force elsewhere. The railway and tramway services may be cited as a very important example in illustration of the truth of the latter portion of the preceding sentence. In other countries these services are chiefly in private hands, while practically the whole of the railways and many of the tramways of Australia have been built and are controlled by the State Governments. It is on this fact, moreover, that a good deal of outside criticism of Australia's loan indebtedness is

shattered, for, as will be shewn later on, the bulk of the loans has been raised in connection with these railway services, which not only constitute an excellent set-off against the corpus of the debt, but were absolutely essential to the development of the country. Australia, it must be remembered, is a country of "magnificent distances," and the lack of navigable inland waterways renders railway construction a *sine qua non* to all progress. Without railways the record of production alluded to in a preceding section could never have been achieved.

The States' revenue is obtained from the following sources:—(a) Taxation; (b) Public works and services under State control; (c) Sale and rental of Crown lands; (d) Payments by the Commonwealth to the States (now regulated by the Surplus Revenue Act 1910); (e) Miscellaneous, comprising fees, fines, interest, etc. The revenue under each category is shewn hereunder for all the States.

Details of State Revenue, 1912-13.*

Particulars.	1912-13.	Particulars.	1912-13.
	\$		\$
Taxation	24,650,183	Commonwealth Subsidy	29,761,321
Public Works and Services ...	123,741,685	Miscellaneous	11,961,168
Land	19,305,791		
		Total... ..	209,420,148

* Exclusive of Northern Territory.

As the figures shew, practically three-fifths of the entire revenue was obtained from public works and services. The chief items in this category are given hereunder:—

State Revenue from Public Works and Services, 1912-13.*

Particulars.	1912-13.	Particulars.	1912-13.
	\$		\$
Railways and Tramways ...	105,858,877	Water Supply and Sewerage	6,981,480
Harbour Services	5,094,421	Other Public Services ...	5,596,204
Public Batteries	210,703		
		Total... ..	123,741,685

* Exclusive of Northern Territory.

A scrutiny of the above figures compared with those in the preceding table shews what an important place is occupied by the railway and tramway services in the list of sources of State revenues.

The land revenue of the States is obtained from sales and rental of the public lands, the amounts from each source being \$9,816,030 and \$9,489,761 respectively.

As explained previously, the power to impose duties of Customs and Excise now rests solely with the Commonwealth, and the major portion of the surplus revenue, shewn above as returned to the States by the Commonwealth Government, was obtained from those sources. A

State Revenue from Taxation.

Commonwealth and State Finance

fair amount of revenue is, however, obtained by the States from other forms of taxation. These are set out in the accompanying statement:—

State Revenue from Taxation, 1912-13.

Taxation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.A.	Tas.	All States
	\$	\$	\$	\$	\$	\$	\$
Probate and succession duties	1,777,513	2,159,207	527,375	286,207	233,250	126,433	5,109,985
Other stamp duties ...	1,138,484	1,228,355	905,585	498,947	343,632	365,824	4,476,027
Land tax ...	27,924	1,500,240	...	690,113	226,388	385,802	2,830,467
Income tax ...	3,224,707	2,638,826	2,051,291	1,022,144	354,164	722,261	10,492,574
Dividend tax ...					479,181		
Licenses ...	670,646	105,853	331,778	118,019	223,541	67,728	1,517,565
Other taxation ...	...	46,363	109,716	...	55,197	12,289	223,565
Total ...	6,839,274	7,678,844	3,925,745	2,610,430	1,915,553	1,680,337	24,650,183



AT THE SUMMIT OF MT. GAMBIER, S.A.

The table hereunder shews details of the State expenditure from consolidated revenue during the year 1912-13:—

State Expenditure.

Details of State Expenditure, 1912-13.*

Particulars.	1912-13.	Particulars.	1912-12.
	\$		\$
Public debt (interest and sinking fund) ...	54,590,171	Education ...	18,386,195
Railways and tramways (working expenses) ...	74,040,839	Medical and charitable ...	9,548,422
Justice, police, etc. ...	11,814,713	Miscellaneous ...	44,864,328
		Total ...	213,244,668

* Excluding Northern Territory.

According to the above figures, interest and sinking funds in connection with the public debts, together with railway and tramway working expenses, account for more than 60 per cent. of the entire expenditure.

In addition to the expenditure from consolidated revenue, the States expend varying amounts each year from loans.

States' Loan Expenditure. The amounts so spent during the five years 1909 to 1913 are given hereunder:—

States' Loan Expenditure, 1908-9 to 1912-13.

Year	...	...	1908-9.	1909-10.	1910-11.	1911-12.	1912-13.
			\$	\$	\$	\$	\$
Amount...	...		36,165,647	40,803,910	58,039,241	79,447,519	89,687,241

It will perhaps prove of interest to shew how the States expend their loan moneys. The statement hereunder gives the details for the year 1912-13:

States' Loan Expenditure, 1912-13.

Heads of Expenditure.		1912-1	Heads of Expenditure.		1912-13.
		\$			\$
Railways and tramways	...	54,454,432	Advances to settlers	...	10,284,174
Water supply and sewerage	...	12,801,049	Land purchases for settlement	...	
Harbours, rivers, etc.	...	5,857,148	Loans to local bodies	...	
Roads and bridges	...		Rabbit-proof fences	...	
Public buildings	...	2,886,471	Other public works and purposes	...	3,167,277
Development of mines, etc.	...	236,690			
			Total	...	89,687,241

The aggregate loan expenditure by all the States up to the 30th June, 1913, was \$1,429,509,376. How this was expended is shewn in the table hereunder:—

Aggregate Loan Expenditure of the Several States of the Commonwealth to 30th June, 1913

Heads of Expenditure.		1912-13.	Heads of Expenditure.		1912-13.
		\$			\$
Railways and tramways	...	872,133,153	Development of mines, etc....	...	7,560,801
Telegraph and telephones	...	20,559,934	Advances to settlers	...	72,804,002
Water supply and sewerage	...	192,783,877	Land purchases for settlement	...	
Harbours, rivers, lighth's, etc.	...	136,874,273	Loans to local bodies	...	
Roads and bridges	...		Rabbit-proof fences	...	
Defence	...	11,630,027	Other public w'ks & purposes	...	33,064,263
Public buildings	...	63,217,401			
Immigration	...	18,881,645	Total	...	1,429,509,376

A natural corollary to the statement just given is one shewing the actual public debt of the Australian States. This is set out in the following table. The figures in the table

The Public Debt of the States. of aggregate loan expenditure represent the amounts actually spent, while those in the table below refer to the loans still unpaid at a given date.

Public Debt of Australian States, 30th June, 1904 to 1913.

Date.	Debentures.	Inscribed Stock.	Treasury Bills.		Total Amount Outstanding.
			For Public Works and Services.	In aid of Revenue.	
	\$	\$	\$	\$	\$
30th June, 1904	183,669,114	840,924,545	60,801,147	22,953,519	1,108,348,325
" 1905	190,568,534	851,879,083	58,618,250	21,838,662	1,122,904,529
" 1906	192,653,759	882,206,098	59,345,140	26,119,272	1,160,324,269
" 1907	185,230,181	896,215,574	66,048,934	21,209,323	1,168,704,012
" 1908	183,300,491	926,485,845	59,040,527	17,814,135	1,186,640,998
" 1909	151,925,509	991,037,813	66,285,332	16,033,338	1,225,271,992
" 1910	144,857,798	1,039,497,535	60,313,776	9,072,915	1,253,742,024
" 1911	151,584,524	1,082,047,315	43,505,968	19,204,269	1,299,991,999*
" 1912	153,669,817	1,120,138,350	67,946,976	6,157,011	1,348,642,139†
" 1913	190,014,967	1,176,832,020	60,082,233	5,653,293	1,433,069,219‡

* Includes an advance of \$3,649,923 from South Australian Government to Victorian Government.

† Includes \$729,985 balance of \$3,649,923 referred to in note *

‡ Includes \$486,656 advance from Queensland to Victorian Government.

From the figures just given, it will be seen that the public debt of Australia at the 30th June, 1913, was over 1433 million dollars, or \$298.42 per inhabitant. At first sight, the total

Assets against the Debts.

appears somewhat heavy for a country with such a comparatively small population, and Australia has been subjected to a good deal of hostile criticism on this account, by people who, it is to be feared, were not sufficiently conversant with the circumstances under which the bulk of the debt was incurred. A study of the conditions under which the development of this country proceeded, will make it fairly clear that Australia's progress is largely the result of Australia's debt. In explanation of this rather paradoxical statement, allusion may again be made to the fact that Australia is practically destitute of navigable inland waterways. In the absence of these, the effective development of the rich lands distant from the coast line rendered imperative the construction of expensive roads and railways. A glance at the figures in the table on page 98 will shew what a large proportion of the debt was incurred on these services alone. It will be seen also that the major portion of the loan moneys has been spent in services necessary to the opening up of the country. Without this expenditure, the progress which has been achieved in the development of the productive resources of the country would have been impossible.

Moreover, while it must be admitted that expenditure was over lavish in some States during the years when the so-called "vigorous public works policy" was in force, an impartial review of the history of Australian borrowing will shew that, on the whole, the loan moneys have been wisely spent and that the corpus of the debt is set off by some very solid assets.



UNIVERSITY BUILDINGS, MELBOURNE, VICTORIA.

X.—SOCIAL CONDITIONS IN THE COMMONWEALTH.

1.—GENERAL.

As pointed out in a previous section, Australia is one of the healthiest countries in the world, and its bright sunshine and equable climate conduce to living largely in the open air. One of the first things which must strike a newcomer is the absence of the violent contrast between rich and poor so characteristic of older lands. While there is a certain amount of poverty, particularly in the cities, there is no hereditary pauper class in Australia, and poor rates are neither levied nor required in any of the States.

Industrial conditions are good. Legislation is in force to prevent sweating, there is proper supervision of manufactories, and the eight hours' day is observed in most trades. Wages are reasonable, and in many cases are adjusted by boards composed of employers and workmen under the presidency of a Government official. An Arbitration Court was created in 1904 by the Commonwealth Government for the prevention and settlement of industrial disputes. Education is free, and religion is untrammelled.

2.—EDUCATION.

In all the States of the Commonwealth public primary education is free, while in those States possessing public higher schools and universities free admission is granted to the children of parents unable to pay the fees. There is very liberal provision also in the way of scholarships and bursaries, which are open to all children

Distribution of Educational
Facilities.



OLD TYPE COUNTRY STATE SCHOOL.

without distinction of class or religion. It has always been the aim of the Australian Parliaments to spread the advantages of primary education as widely as possible. All the capital cities and the larger towns are, of course, well provided with schools, which in respect of general design and equipment are very similar to schools of the same class in the United Kingdom. Then in the more sparsely-peopled country districts, there are smaller public* or "provisional" schools. In still more thinly-peopled areas half-time schools are to be found, *i.e.*, schools which are visited alternately by the one teacher, while itinerant teachers visit the scattered settlers in the "back blocks." In some States the plan has been adopted of closing clusters of small country schools and replacing them by a larger central institution, to which the children are conveyed each day in comfortable vehicles.

That the States have been successful in at least spreading the benefits of primary education is clearly set forth by the following table, which shews

Spread of Primary Education. the number per 10,000, between the ages of five and fifteen, who could read and write, read only, and who were unable to read at the

census periods from 1861 to 1911:—

Education of Children in the Commonwealth at Census Periods. Proportions in 10,000.

Heading.	1861.	1871.	1881.	1891.	1901.	1911.
Read and Write ...	4,757	5,910	7,061	7,588	7,984	9,027
Read Only ...	2,628	2,078	1,266	734	481	29
Cannot Read ...	2,615	2,012	1,673	1,678	1,535	944
Total ...	10,000	10,000	10,000	10,000	10,000	10,000

* In Australia a "public" school is, generally speaking, a State primary school.

From the above figures, it will be seen that whereas only 48 per cent. of the children between five and fifteen could read and write in 1861, the proportion had increased by the year 1911 to over 90 per cent.

The marriage statistics also shew the great spread of primary education since 1861. In that year, nearly 25 per cent. of the persons married signed the marriage register with a mark, while in the year 1913 the percentage had fallen to as low as 0.37, and bids fair to practically disappear.

The State schools of the Commonwealth had an enrolment in 1912 of 662,576 pupils, and an average attendance of over 496,000. The schools themselves numbered 8393, that is to say, there is one public school in the Commonwealth for every 560 inhabitants. In the table hereunder will be found the distribution amongst the States :—

State Schools in the Commonwealth, 1912.

State or Territory.	Schools.	Teachers.*	Scholars Enrolled.	Average Attendance.
New South Wales†	3,234	6,454	235,803	171,028
Victoria	2,178	5,567	209,209	154,410
Queensland	1,278	2,992	95,641	77,385
South Australia	768	1,473	58,273	40,838
Western Australia	536	1,189	38,184	32,959
Tasmania	396	840	25,368	19,561
Northern Territory	3	3	98	71
Commonwealth	8,393	18,518	662,576	496,252

* Exclusive of sewing mistresses.

† Including Federal Territory.



MODERN TYPE COUNTRY STATE SCHOOL, VICTORIA.

Social Conditions.

The States expend a considerable sum annually in the maintenance of their systems of primary education. This will be seen from the table hereunder, which gives for each State the expenditure on maintenance and the cost per head of average attendance for the year 1912.

State Expenditure.

Expenditure on Maintenance—State Schools, 1912.

State.	Expenditure.	Cost per head of Average Attendance.
	\$	\$
New South Wales	6,255,530	36.58
Victoria	4,349,000	27.27
Queensland	1,915,202	24.76
South Australia	1,060,298	25.95
Western Australia	1,074,440	32.61
Tasmania	420,958	21.51
Northern Territory	3,280	46.19
Commonwealth	15,078,708	30.40

The latest available figures in regard to the diffusion of private education will be found in the next table. The term "private" is not exactly suitable, as some of the institutions

Schools, other than State Schools. included in the table, such as the Queensland Grammar Schools, receive large subsidies from the State.



STATE SCHOOL CHILDREN'S SP

Private Schools (other than State Schools) in the Commonwealth, 1912.

State.	Schools.	Teachers.	Enrolment.	Average Attendance.
New South Wales	754	3,673	61,744	51,168
Victoria	548	1,856	56,035	45,000
Queensland	151	767	17,289	14,752
South Australia	174	681	12,031	9,430
Western Australia	118	427	10,000	8,506
Tasmania	116	360	6,933	5,041
Northern Territory	1	2	53	43
Commonwealth	1,862	7,766	164,085	133,940

There is at present no direct means of ascertaining the quality of the bulk of the private schools in Australia, as a large proportion of them is independent of any State control, but, indirectly, an idea can be gained of their worth from the highly successful results obtained by many of them at the various University public examinations. Considerable sums of money have been spent on buildings and equipment of the higher grade institutions, the buildings and sites of thirty-seven of the most important schools being returned as worth \$4,433,440.

In Australia, the State concerns itself mainly with primary and University education, most of the larger secondary schools not being under State control. How best to secure an effective co-ordination and orienta-



AGRICULTURAL GROUND, SYDNEY.

Social Conditions.

tion of all branches of educational activity is a problem which is now challenging public attention. There is a University in the capital city of each of the States. The latest available figures regarding teachers and students at these institutions, from which returns were

Universities.
received, were as follows:—

Universities in the Commonwealth.

University.	Professors.	Lecturers.	Students attending Lectures.		
			Matriculated.	Non-matriculated.	Total.
Sydney	29	101	1,007	388	1,495
Melbourne	18	64	...	...	1,221*
Adelaide	11	36	387	310	697†
Tasmania (Hobart) ...	4	6	79	51	130
Queensland (Brisbane)†	4	17	205	14	219

* Exclusive of 98 music students. † Exclusive of 318 music students. ‡ Opened in 1911.

Women are admitted as students at all the above institutions.
The latest returns of the income of the Universities are shewn here-under:—

University Revenues.

University.	Government Grants.	Fees.	Other.	Total.
	\$	\$	\$	\$
Sydney	209,262	100,203	130,667	440,132
Melbourne	182,029	154,723	36,655	373,407
Adelaide	131,417	50,106	31,365	212,888
Tasmania (Hobart) ...	24,333	7,076	3,562	34,971
Queensland (Brisbane)	60,832	11,344	18,921	91,097



UNIVERSITY OF SYDNEY, N.S.W.

These institutions have benefited considerably from private munificence. Thus, the Challis bequest to the Sydney University amounted to about \$1,509,000, while Sir Peter Nicol Russell gave \$487,000 to the

Engineering School. In Melbourne, The Hon. Francis Ormond endowed Ormond College to the extent of \$525,000, and gifts and bequests amounting to a similar sum were made by Sir Thomas Elder to the Adelaide University.



TECHNICAL COLLEGE, SYDNEY, N.S.W.

Courses of extension lectures are given in the various States, but these have, generally speaking, met with but moderate success.

The development of technical education has so far been somewhat uneven in Australia, but the results achieved give every promise of greater success in the near future. Excellent technical

Technical Education. instruction in agriculture and mining is given at various institutions throughout the Commonwealth, while with the increase of population and the development of the manufacturing industry, further extension of technical training in the arts and crafts will become a necessity. During the year 1912 the Commonwealth expenditure on technical education was about \$1,124,000, or excluding buildings, \$856,000, a very trifling sum compared with that expended on primary education.

Space will not permit of more than a passing reference to the spread of education, as evidenced by the number and distribution of the public libraries in the Commonwealth, of which at the latest date there were 1500, containing about 3 million books, the institutions at Sydney and Melbourne respectively containing 250,000 and 246,000 volumes. Of the numerous Scientific Societies the most important is the Royal Society of New South Wales, which has over 300 members, corresponds and exchanges with 372 kindred societies throughout the world, and possesses a library of about 21,000 volumes, including many interesting works on the early history of Australia.

3. RELIGION.

There is no State-established religion in the Commonwealth, nor are any religious distinctions operative in public affairs. There is, moreover, no religious test for admission to any of the rights and privileges of citizens. By far the largest proportion of the inhabitants of the Commonwealth belongs to the Church of England. The Roman Catholic is the next most numerous denomination, followed by the Methodists, Presbyterians, and Baptists. At the decennial census fairly accurate returns are obtained of the professed religions of the people, although if a person has conscientious objections he is not compelled to state his religion on the census schedule. At the census of 1911 the distribution of the denominations was recorded as follows. Only the larger branches are separately mentioned.

Religions in the Commonwealth, Census of 1911.

Religion.	Persons.	Religion.	Persons.
Christian—		Non-Christian—	
Church of England ...	1,710,443	Hebrew ...	17,287
Methodist ...	547,806	Buddhist ...	3,269
Presbyterian ...	558,336	Confucian ...	5,194
Congregational ...	74,046	Mohammedan ...	3,908
Baptist ...	97,074	Pagan ...	1,447
Church of Christ ...	38,748	Others ...	5,680
Salvation Army ...	26,665	Indefinite—	
Lutheran ...	72,395	No Denomination ...	2,688
Seventh Day Adventist ...	6,095	Freethinker ...	3,254
Unitarian ...	2,175	Agnostic ...	3,084
Protestant (undefined) ...	109,861	Others ...	5,647
Roman Catholic ...	921,425	No Religion, object to state, and unspecified ...	129,133
Greek Catholic ...	2,646		
Catholic (undefined) ...	75,379		
Other Christians ...	31,320	Total ...	4,455,005

The professed adherents of the Church of England thus comprised about 38 per cent. and the Roman Catholic Church about 21 per cent. of the entire population of the Commonwealth.

4. PUBLIC JUSTICE.

The great body of Australian law is, in its basic principles, founded on British law, but there have, of course, been considerable modifications and extensions to suit local circumstances.

Throughout the Commonwealth there are minor courts for the trial of petty offences and the settlement of trivial civil actions, such courts being presided over by magistrates or similar functionaries. Next in order come courts of various designation, such as Courts of Quarter Sessions, District Courts, Circuit Courts, then the Supreme Courts, and, lastly, the High Court of Australia. In certain circumstances appeal may



LAW COURTS, MELBOURNE.

be made from an Australian court to the Privy Council. The purity of the administration of justice in Australia, from the lowest to the highest stages, has never been seriously impugned.

Despite the rapid changes in social and industrial conditions which have characterised the history of Australia, crimes of violence have been comparatively few. There are no means of comparing satisfactorily the criminal records of Australia with those of other countries, but

Criminal Statistics.

the statistics here prove that not only has there been a very considerable diminution in crime compared with the record of forty years ago, but that the decrease, even during the last six years, has been persistent. Taking the convictions at Lower or Magistrates' Courts for offences against the person and property, the rate in 10,000 persons was as shewn hereunder:—

Convictions for Serious Crime at Commonwealth Magistrates' Courts.

Year	1881.	1891.	1901.	1911.	1912.
Convictions per 10,000 persons...	69.3	44.8	29.1	24.6	26.3

A more satisfactory test still is afforded by taking the persons committed for trial at the Superior Courts of the Commonwealth. The rates per 10,000 of these were as follows:—

Committals to Superior Courts.

Year	1881.	1891.	1901.	1911.	1912.
Committals in 10,000 persons ...	12	11	8	6	7

Social Conditions.

There has also been a remarkable decline in the gaol population. Although complete figures are not available for the earlier years, the results even during the period 1901 to 1912 shew that the improvement is continuing. The prisoners in gaol per 10,000 of the population during the decennium were as follows:—

Prisoners in Gaol.

Year	1901.	1905.	1907.	1908.	1911.	1912.
Prisoners in Gaol, per 10,000 ...	11.2	10.0	8.9	8.2	7.0	7.3

The expenditure in the Commonwealth on police, prisons, and other matters connected with the administration of justice, for the years 1901, 1903, 1909, and 1912 was as follows:—

Expenditure on Justice.

Year	1901.	1903.	1909.	1912.
Expenditure \$	9,319,470	9,465,467	10,133,252	12,210,564
Per head \$	2.43	2.43	2.35	2.62

During the period dealt with, the expenditure on gaols decreased by 6 cents per head of population, while the expenditure on Courts of Justice and miscellaneous increased by about 4 cents per head, and police expenditure by 20 cents per head.



HENLEY ON YARRA, MELBOURNE, VICTORIA.



COUNTRY STATE SCHOOL AND GARDEN.

5. PUBLIC BENEVOLENCE.

It would be absurd to affirm that there is no poverty in Australia, but it can truthfully be said that the number of absolutely destitute persons forms a comparatively negligible proportion of the entire population. No poor rate is levied in any part of the Commonwealth, for there is practically no pauper class to need it.

The bulk of the work of looking after the sick and destitute is in private hands, although the States maintain orphanages and asylums for the destitute and insane. At the latest avail-

Hospitals and Orphanages. able date there were in the Commonwealth 368 hospitals, in which 139,000 patients were treated, the total expenditure being \$5,363,606. Orphanages in 1912 numbered 41, the inmates were 5057 and the expenditure came to \$308,355. Hospitals for the insane number 35. The expenditure on these during the year 1912 was \$3,377,000, and the number of indoor patients 19,000. There are also institutions which combine the functions of general hospitals and benevolent asylums. The total State expenditure on all charities for the year 1912 was \$7,952,000.

6. COMMONWEALTH OLD-AGE PENSIONS.

Prior to the inauguration of the Commonwealth system of Old-Age Pensions, the States of Victoria and New South Wales had paid old-age pensions from early in 1901, while the Queensland pension payments dated

Social Conditions.

from the 1st July, 1908. The Commonwealth Invalid and Old-Age Pensions Act, which superseded the State Acts as far as provision for old age is concerned, was passed in 1908, and pension payments commenced on the 1st July, 1909. The Act provides also for the granting of pensions to invalids, and operations under this heading commenced on the 19th November, 1910.

The age qualification for a pension is 65 years, or in the event of permanent incapacitation for work, 60 years. The age qualification for women is 60 years instead of 65. For an invalid pension the age qualification is the attainment of the age of 16 years if accompanied by permanent incapacity for work.

Pension Age.

For an old-age pension the residential qualification is twenty years, and for an invalid pension continuous residence for at least five years is required. In neither case, however, is continuous residence in the Commonwealth deemed to have been interrupted by occasional absences aggregating not more than one-tenth of the total period of residence.

Residence Qualification.

The amount of pension is fixed by the Commissioner at such sum as he deems reasonable, but must not exceed \$126.53 per annum, nor such a sum

Pensions' Granted.

as will cause the pensioner's income together with the pension to exceed \$253.06 per annum. At the end of December, 1909, 40,201 State pensions were exchanged for Commonwealth pensions, 22,705 new applications were granted, 2633 rejected, and 2447 were under consideration. On the 30th June, 1913, the number of old-age pensioners was 82,943, and invalid pensioners, 13,739, while the total amount paid during the year 1912-13 was \$11,139,799.



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